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ABSTRACT

This publication is the report of a meeting by the Economic and Social Commission for Asia and the Pacific (ESCAP) to discuss the translation of population materials. The goals of the meeting were to review the current status of translating population materials into languages appropriate to various nations and to develop guidelines for the translation and monitoring of materials at a national level. The report is divided into two parts. Part one is the committee report of the meeting and part two is a collection of the papers presented at the meeting. A listing of the participants by nation is presented in one annex and a listing of the papers presented in another. (MA)

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REPORT and PAPERS

of

THE EXPERT GROUP MEETING ON THE TRANSLATION OF POPULATION MATERIALS

(BANGKOK, 8-12 DECEMBER 1975)

ECONOMIC AND SOCIAL COMMISSION FOR ASIA
AND THE PACIFIC

UNITED NATIONS
1976

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Supplement No.1 (E/CN.11/1007/Add.1): 1974
Supplement No.2 (E/CN.11/1007/Add.2): 1974
Supplement No.3 (E/CN.11/1007/Add.3): 1976

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No.10 *Report and Selected Papers of the Regional Seminar on Ecological Implications of Rural and Urban Population Growth* (E/CN.11/1043): 1973

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No.14 *Comparative Study of Mortality Trends in ECAFE Countries* (E/CN.11/1108): 1973

No.15 *A Comparative Study of Family Planning Service Statistics Systems in the ESCAP Region* (E/CN.11/1198): 1975

No.16 *Husband-Wife Communication and Practice of Family Planning* (E/CN.11/1212): 1975

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* No charge, but priority given to Governments and institutions.

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** Available in microfiche form

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Between the time of the Expert Group Meeting and the publication of this report and the selected papers the names of some countries and territories were changed.

ST/ESCAP/13

FOREWORD

This report and the papers of the Expert Group Meeting on the Translation of Population Materials were prepared by language experts, population experts, programme administrators and information specialists who met in Bangkok, Thailand, from 8 to 12 December 1975.

The language barrier is becoming increasingly recognized as a formidable obstacle to the dissemination and exchange of population information. Surveys and studies conducted by the Population Division over the last six years have shown that serious communications problems exist today in the ESCAP region and, with the trend towards the wider use of national language, the question of communication is likely to become even more complicated.

The Expert Group Meeting was one of the first of its kind to deal with translation as a key factor in the cross-cultural exchange of information. The purpose for this gathering of experts from various disciplines was to make a careful review of the current situation in the field of translation of population materials and to formulate proposals and guidelines for translation policies and programmes at national levels.

This is in accordance with recommendations made on various occasions. At the Second Asian Population Conference held at Tokyo in November 1972, it was pointed out by governmental leaders in the region that translation into languages appropriate to various countries of the region was essential and they recommended that an expert working group be convened to establish guidelines. Their recommendations were reaffirmed at national workshops of ESCAP population correspondents held at Jakarta, Bangkok, Seoul and Lahore during 1973 and 1974. The World Population Conference held at Bucharest, 1974, in its World Population Plan of Action recommended that in order to achieve the widest possible dissemination of research results, translation activities should be encouraged at both the national and international levels.

On behalf of ESCAP, I thank all the participants, for their contributions to the success of the meeting, and the United Nations Fund for Population Activities, for funding this pioneering expert group exchange.

J.B.P. Maramis
Executive Secretary
ESCAP.

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Part One

REPORT OF THE EXPERT GROUP MEETING ON THE TRANSLATION OF POPULATION MATERIALS

I. ORGANIZATION OF THE MEETING

Introduction

1. The problem created by the general increase of population information in the ESCAP region is well recognized. However, the increase of materials in national languages is less well known although it is documented in various publications.[1] There are many indications that publications in national languages will increase because of recent official policies, more staff trained in national languages, more documents written for national audiences, the appearance of new local-language journals etc.

2. Many countries of the region and international agencies are now taking steps to organize the collection, tailoring and channelling of information systematically by setting up national population documentation centres, national population clearing-houses, national population information systems and sub-regional, regional and international programmes. The efficiency of this organizational effort has been reduced by the presence of language barriers, affecting both international exchange and internal use.

3. The Second Asian Population Conference, held in Tokyo in November 1972, pointed out that:

> "Translation into languages appropriate to various countries of the region was essential, though expensive. Establishment of a regional clearing-house for translation was recommended, along with improved in-country services preceded by an expert working group meeting to establish guidelines".[2]

4. The Conference recommended that: "ESCAP should take the lead in bringing Asian scholars, policy-makers, and programme officials together to discuss innovative approaches to the ... translation ... of information and knowledge suited to Asian conditions ..."[3] It also recommended that "the United Nations multilingual Demographic Dictionary should be translated into as many Asian languages as possible"[4].

5. These recommendations were reaffirmed in the series of national workshops of ESCAP Population Correspondents, held at Jakarta, Bangkok, Seoul and Lahore during 1973 and 1974. The World Population Conference, 1974, also specifically recognized the need to overcome the language problem.

6. An Expert Group Meeting on Translation of Population Materials was therefore convened from 8 to 12 December 1975, at Bangkok, to examine specific problems created by language barriers to the flow of population information.

Objectives

7. The purposes of the meeting was to formulate guidelines designed to overcome, at least in a partial way, the problems created by the existence of relevant information in languages not understood by potential users. The objectives of the meeting were to:

(a) Review the current situation in the field of translation of population materials;

(b) Formulate proposals for policies and programmes for translation at the national level;

(c) Suggest measures for monitoring and co-ordinating translation at the national level; and

(d) Discuss regional and international co-operation in this area.

Participation

8. The meeting was attended by experts from nine member countries of the Commission: Hong Kong, Indonesia, Iran, Japan, Malaysia, Nepal, Pakistan, Republic of Korea and Thailand. The following United Nations specialized agencies and bodies were represented: International Labour Organization (ILO); Food and Agriculture Organization of the United Nations (FAO); United Nations Educational, Scientific and Cultural Organization (UNESCO); World Health Organization (WHO); Population Division, New York; Development Support

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1/ *"Periodicals in the ECAFE region with special interest in population information", in Population Strategy in Asia: The Second Asian Population Conference, Tokyo, November 1972, Report, Declaration and Selected Papers,* Asian Population Studies Series No. 28 (E/CN.11/1152), pp.428-437. and various national bibliographies (e.g., Indonesia, Republic of Korea).

2/ *Population Strategy in Asia: The Second Asian Population Conference Tokyo November 1972, Report. Declaration and Selected Papers,* Asian Population Studies Series No. 28. (E/CN. 11/1152), Report of the Conference, Chap. VIII, recommendation 12.

3/ *Ibid,* recommendation 14.

4/ *Ibid,* recommendation 12.

Communication Service (DSCS) and United Nations Fund for Population Activities (UNFPA).

9. The Intergovernmental Co-ordinating Committee (IGCC), Southeast Asia Regional Co-operation in Family and Population Planning, was also represented, as well as the following non-governmental organizations: International Planned Parenthood Federation (IPPF); International Union for the Scientific Study of Population (IUSSP) and the Japanese Organization for International Co-operation in Family Planning (JOICFP). A list of participants is given in annex I.

Opening addresses

10. In his statement to the participants welcoming them to the meeting, the Executive Secretary of ESCAP described language barriers as a formidable obstacle to the dissemination and exchange of population information.

11. In her opening address to the Expert Group Meeting, Her Excellency Mrs. Siva Obeyesekara, Deputy Minister of Health of Sri Lanka, drew attention to serious communication gaps caused by the diversity of languages in Asia which hampered the achievement of population policy and programme goals.

Election of officers

12. Professor A. Hafid was unanimously elected Chairman; Mrs. Homa Asayesh, Vice Chairman and Dr. B.R. Pande and Mr. Ian Hudson, Rapporteurs.

Agenda

13. The meeting unanimously adopted the following agenda:

1. Opening of the session
2. Election of officers
3. Adoption of the agenda
4. The current situation in the translation of population materials in the region
5. Feasibility of the establishment of translation programmes at the national level
6. Basic elements of a national translation programme
7. Guidelines for the organization and co-ordination of translation programmes at the national level
8. Regional and international co-operation in carrying out translations
9. Adoption of the report
10. Closing of the session

Documentation

14. A list of the documents for the meeting is given in annex II.

Consideration and adoption of the report

15. At the concluding session on 12 December 1975, the draft report of the meeting was adopted after some amendments. These amendments have been incorporated in the text now presented.

II. THE CURRENT SITUATION, EXISTING PROBLEMS, AND SUGGESTIONS FOR OVERCOMING THEM

Introduction

16. The current situation with regard to the feasibility of setting up translation programmes for population materials was considered at national, regional and international levels. Existing problems and suggestions as to how they could be overcome were dealt with in detail in the course of plenary and group discussions. In the process, the salient components of national population materials translation programmes were identified and structured into a set of basic elements required for setting up such programmes.

General observations

17. Participants began with a discussion of the translation situation in the ESCAP region. They then proceeded to review problems arising from language barriers in the exchange of population information. They concluded with a discussion of steps to overcome these barriers to communication.

18. Among the factors of interest that emerged were the diverse stages of development of translation efforts in countries of the region, the lack of background information on existing facilities, the urgent need for a standardization of terminology,

the emergence of new techniques and tools for translation and the need to co-ordinate existing and proposed translation activities at the regional and national level. The Group took note of the need to translate the IUSSP international demographic terminology, which is currently being prepared, into the national languages of the countries of the region.

19. It was realized that there were a number of new developments in the translation of population materials in the region. Knowledge thus far had been confined to a few persons who had overseas training and a wider command of international languages. That was changing as more people were trained in their own countries. Thus, there was an increasing awareness of the need for national language publications to ensure that a new generation of locally trained professionals had access to information and could share their ideas with the rest of the world.

20. In setting up translation programmes, the need for co-operation and sharing of information between institutions at the national level to avoid duplication of efforts was reiterated. It was also recommended that tailoring of translated materials for local or provincial audiences be done within the country by the country itself and not by international organizations.

21. Several gaps existed in the knowledge base required to set up translation programmes. In that connexion, the need for a survey of translation facilities and personnel in each country of the region was stressed. The various target audiences for translated materials would have to be identified and their interests analysed before beginning a country translation project.

22. Participants also recommended a more detailed study of interest in, and use of, translations of entire publications versus summaries. Furthermore, they felt that continuing research should be conducted to determine the needs of countries since they sometimes changed. This would include registration of projects and research to avoid duplication and the compilation of national language population dictionaries, which were vital aids for translation, to enable non-specialists to understand specialized terminology.

Individual country situations

23. Several examples of individual country situations were given to illustrate existing problems. Malaysia had already established a national translation system with an official Government translation organization dealing with translation matters. However, there was a need to speed up the translation process. Finding qualified English translators, however, was not a problem since most students learned English in school. The possibility of sharing Indonesian materials was mentioned. It was also felt that there was a greater need for local materials in order to meet the requirements of target audiences.

24. The Indonesian expert raised the problem of tailoring translations to fit the needs of specific groups working in the population field — medical doctors, lawyers, field workers, nurses, researchers and administrators. Each group had different needs and skill levels. Materials translated for one group might be irrelevant to the needs of another group. Their needs varied widely. The translation situation was further complicated by the need to translate materials into and from regional languages as well as national and international languages. That was very difficult owing to a lack of money and skilled manpower.

25. The main problem of the Republic of Korea was not one of co-ordination but lack of money and manpower. The Korean Institute for Family Planning (KIFP) and other organizations in the country were well aware of the problems but lacked the resources to tackle them. Most of the participants agreed on the need for more money and training courses for translators before a national translation programme could be effectively established. For the Republic of Korea, the possibility existed of integrating the proposed national translation programme into an expanded existing structure such as the KIFP Clearing-house, rather than establishing a totally new operation.

26. In Nepal, where the literacy rate was low, 75 per cent of the people spoke Nepali but translation must also be done into dialects. Like many other countries of the ESCAP region, Nepal wanted translation efforts to facilitate a two-way flow of information not only from international languages such as English into national languages, but vice versa, from national languages into international languages. However, the lack of skilled manpower — both translators and demographers/population specialists to work with the translators — was cause for serious concern. A translation programme at the national level was still feasible, but difficult.

Regional and international activities

27. Activities at regional and international levels were identified as catalytic and supportive.

28. Discussions included suggestions for international co-operation in carrying out translations. Important functions singled out were: (a) creating an awareness and concern for the need to translate population materials at decision-maker level; (b) assisting countries in conducting surveys of existing materials, facilities, reader interest etc.; (c) co-ordinating country activities by bringing together producers and users of materials to be translated in different countries; and (d) suggesting possible sources of funding. International organizations were urged to promote a sharing of translated materials at regional and sub-regional levels and to help in locating known and unknown sources of technical materials, for example works of Asian scholars deposited in Western countries.

29. It was felt that important work could be accomplished at the international level in standardizing terminologies. The thesaurus of the Committee for International Co-ordination of Research in Demography and the IUSSP dictionary were given as examples. Mention was made of the need to promote the active use of those tools for translation.

30. Several suggestions were made as to the role of international organizations in furthering translation efforts.

31. The IPPF representative requested an exchange of mailing lists and greater co-operation between international, governmental and non-governmental organizations in the development and execution of translation programmes and the exchange of population information in general.

32. The IGCC representative spoke of the language problem in Malaysia, where four languages were currently in use — Malay, Tamil, Chinese and English. With other IGCC countries experiencing similar difficulties, the IGCC has begun exploring the translation problem in greater depth.

33. Specific ongoing activities of ESCAP which were mentioned included the compilation of an Asian thesaurus containing indigenous terms, for example, mothers' clubs, and the sharing of information on the development of translation programmes through **Asian Population Programme News**, 5/ **Headliners** 6/ and the regional Population Correspondents network.

34. Other supportive activities suggested were: (a) drawing the attention of the Secretary-General of the United Nations to the need for national translation programmes; (b) informing permanent representatives to ESCAP of developments in this field; (c) giving priority to translation in future ESCAP Population Correspondents workshops; and (d) setting up an inter-agency regional population translation committee which would provide for technical advisory services and training.

Steps in overcoming existing problems

35. It was agreed that translation projects at the national level would need to be developed as an integrated part of communication and information systems. Special functions in setting up and bringing translation systems into operation were identified.

36. Those functions might be grouped into four areas:

(a) The all-important function of setting up a national committee for the translation of population materials. It was noted that members should include administrators, scholars from population-related disciplines and technical experts in translation and communication;

(b) The selection of target audiences and materials: target audiences were broadly classified into (i) decision makers and administrators, requiring summarized materials, (ii) scholars and researchers whose interests would centre on complete translations of substantive materials and (iii) professionals with a secondary interest in population and the general public which was primarily interested in media information. The selection of materials required careful consideration of the publication's effectiveness in answering audience requirements. Professional quality publications should be selected in order to ensure high standards. Priorities would naturally depend on audience requiements. They would also reflect emphasis given in country programmes to field activities, research, communication etc.;

(c) Identifying tools of translation. A lively discussion arose on standardization of terminology and the availability of multilingual dictionaries, standardized dictionaries of terms and thesauri. These comprised the pre-requisites for launching a translation programme;

(d) Those functions, related to programme implementation, which covered practical issues such as the identification of dissemination channels,

5/ Quarterly publication of the Population Division, *ESCAP*.

6/ Monthly publication of the Population Division, *ESCAP*.

inquiry into copyright and legal considerations, funding possibilities and provision of incentives in order to gain priority for translation at the policy level through to the motivation of translators. A careful assessment of the relative merits of free versus costed production and distribution of publications was suggested.

37. In giving detailed consideration to those basic guidelines many useful suggestions based on previous individual country experiences were given. A warning against over-simplification came with the caution that the process of translation must take cognizance of socio-economic variables and cultural factors related to population. The need for demographers and translators to work in close co-operation was repeatedly stressed. An example was given of how this was achieved in Malaysia at the National Bureau of Translation which recruited professional translators whose work was facilitated by the use of terminologies prepared by experts with high proficiency in various disciplines.

38. An interesting suggestion derived from the Thai experience in translating a demographic text was that very comprehensive publications be translated and published in parts to enable readers to purchase only the sections that were of interest to them.

39. A constant factor that presented itself was the varied degree of development of both population programmes and translation facilities at the national level. As such it was suggested that the identification of minimum technical requirements was most desirable so that individual countries could formulate their programmes according to their own degree of sophistication in either field.

40. Taking into consideration the problems identified and the need to organize a population translation system which reinforced educational and information efforts, the working groups formulated guidelines and recommendations for the consideration of national Governments and international agencies in the field.

III. GUIDELINES

41. The following guidelines for the establishment of national translation programmes were developed by participants at the Meeting.

1. Examine and incorporate socio-economic and cultural constituents of the population programme while translating population materials;

2. Survey existing population publications to provide an inventory from which to select materials to be translated;

3. Standardize systems of indexing population materials in order to facilitate possible computerized information systems in the future;

4. Define target audiences to help set priorities and ensure a proper style of translation;

5. Develop strong, flexible national programmes capable of tailoring information for specific target audiences;

6. Assess the availability of translators and translation facilities;

7. Promote closer co-operation between linguists and demographers when coining new terms;

8. Ensure adequate incentives for giving priority to translation in accordance with national policy requirements and for motivation of translators;

9. Recommend to all funding agencies that funds be included in all project proposals for the translation of final reports and major studies into the national language for the use of local programme administrators;

10. Ensure the quality and reliability of translated materials through attention to standards and basic criteria of accuracy and style;

11. Explore the possibility of commercial publishing and sale of translated population materials;

12. Urge the proposed population translation committee to:

(a) Consider the following criteria for selection of local and foreign materials on population problems, including demographic and developmental matters, to be translated:

(i) Recent materials on population problems including those related to other disciplines preferably written within the last five years in order to answer current needs. This should not preclude classic works at a later stage;

(ii) Materials containing well defined methodology;

(iii) Materials that are not limited to

existing publications but include original writing for translation;

(iv) Texts of high professional quality;

(v) Basic technical works on demography;

(vi) Surveys and studies relevant to the country and in some cases to adjoining countries;

(vii) Current statistical information and census reports;

(viii) Reference lists and bibliographies;

(ix) Recommendations on population matters made by international agencies;

(b) Co-ordinate requests for translated materials from external and internal agencies;

(c) Identify channels of dissemination; that is, governmental, non-governmental and other organizations concerned with population issues, local authorities and mass media. If the translation programme is closely linked with the national population clearing-house, dissemination of translated materials may be specifically integrated into its general dissemination procedures;

(d) Disseminate information on population translation activities through all available means;

(e) Assess the relative merits of abstracts/summaries as opposed to complete texts. Abstracts should preferably be done by the author and contain a summary and recommendation in the local language which can later be translated by professionals;

(f) Evaluate the selection processes, quality of translation and usefulness of the programme;

(g) Ensure the standardization of vocabularies by

(i) Making an inventory of accepted terms;

(ii) Comparing terms in existing documents in order to determine the gaps;

(iii) Establishing complementary lists of locally needed terms or specific meanings of demographic or sociological concepts;

(iv) Establishing recognized national language dictionaries.

13. Include the following functions specific to the proposed inter-agency translation steering committee:

(a) Co-ordinating inventories or surveys of materials, activities and facilities, assistance or help being provided to countries in the region;

(b) Keeping such an inventory current and up to date;

(c) Assisting national translation committees in the selection of materials to be translated;

(d) Responsibility for the dissemination and propagation of information on translation materials;

(e) Providing support, training and technical advice to countries requiring translation of materials, such as the existing **Multilingual Demographic Dictionary** 7/ pending publication of the IUSSP terminology or other technical publications including thesauri, into national languages.

IV. RECOMMENDATIONS

42. The Meeting adopted the following recommendations:

1. Every effort should be made to set up a population policy co-ordinating body at the national level which should provide guidelines on the translation materials in the country. Where no such body exists a special committee should be established for the purpose.

2. A national committee for the translation of population materials be established to promote activities. This committee should include administrators, scholars from varied disciplines and technical experts. Specialized sub-committees may also be formed.

3. Pilot projects be conducted in several countries of the region in order to:

(a) Investigate the feasibility of establishing national translation programmes.

(b) Explore the possibility of utilizing

7/ United Nations publication, Sales No. 58.XIII. 4.

machine translation for overcoming language barriers and shortages of trained manpower.

4. Noting the recommendation of the fifteenth session of the Population Commission that the Secretary-General co-operate closely with the IUSSP **inter alia** in the preparation of a standardized demographic terminology and in view of the importance of this work for the translation of technical population materials urgently needed in the ESCAP region, the Population Commission should adopt the IUSSP revised demographic terminology as an official United Nations document. The Meeting further recommends that the Commission request Governments to encourage national committees to provide for the translation of the standardized demographic terminology into national and local languages.

5. As a follow-up to the **ESCAP exploratory study on the translation of population materials** national surveys be conducted, with the assistance of ESCAP where necessary, on

(a) Existing facilities in a country for developing translation programmes;

(b) Government and private agencies with capabilities for translation;

(c) Specific interests of different categories of users.

6. Regional offices of the United Nations family of organizations and other international agencies and subregional organizations involved in the translation of population materials be encouraged to co-operate and to establish inter-agency regional population translation programmes.

7. An inter-agency translation steering committee be set up, to develop the appropriate procedures for the implementation of a regional translation programme. This steering committee should be a standing committee of the Inter-Agency Consultative Committee on Population. It would deal specifically with translation questions, and therefore should include experts on translation and documentation.

8. The Report of this Expert Group Meeting be presented to the ESCAP Population Committee for further consideration and ESCAP transmit the Report to the 1977 session of the United Nations Population Commission.

9. ESCAP secretariat should prepare a regional programme on translation of population material, with indications of necessary financial requirements, for the first session of the Population Committee to meet in 1976.

10. The ESCAP Population Division Clearinghouse and Information Section should serve as a co-ordinating point for the collection and dissemination of information on translation activities in member countries, regional offices of United Nations specialized agencies and other international bodies to ensure standardization.

11. Background information prepared for this meeting which may be useful to countries embarking on or expanding translation programmes should be given the widest possible circulation and, subject to the availability of funds, be incorporated as an annex to this report.

12. The proposed guidelines should be adopted at the national level when setting up translation programmes.

ANNEX I

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NON-GOVERNMENTAL ORGANIZATIONS

Category I

International Planned Parenthood Federation (IPPF)	Mr. Ian M. Hudson, Head, IEC Division of the IPPF East and South East Asia and Oceania Regional Office, Kuala Lumpur, Malaysia

Category II

International Union for the Scientific Study of Population (IUSSP)	Mr. P. Paillat, Chairman, IUSSP Committee on International Demographic Terminology, Paris, France

OTHER ORGANIZATIONS

Inter-Governmental Co-ordinating Committee (IGCC)	Dr. Sarnanto, Programme Officer, IGCC, Kuala Lumpur, Malaysia
Japanese Organization for International Co-operation in Family Planning (JOICFP)	Mr. Chojiro Kunii, Executive Director, JOICFP, Tokyo, Japan

Resource persons

Mrs. Zerrin Polite	Librarian, Division of Administration, ESCAP Secretariat
Mr. Jacques du Guerny	Population Programme Officer (Research), Human Resources Institutions and Agrarian Reform Division, FAO, Rome

Expert

Mr. A. Archambault	Translator/Interpreter, Language Services, Division of Administration, ESCAP Secretariat

Secretariat

Mr. J.B.P. Maramis	Executive Secretary
Mr. Carl M. Frisen	Chief, Population Division
Mr. B.B. Aromin	Demographer, Office of the Chief
Miss L. Olson	Chief, Clearing-House and Information Section, Population Division
Mr. Sook Bang	Chief, Fertility and Family Planning Section, Population Division
Mr. S. Selvaratnam	Officer-in-Charge, General Demography Section, Population Division
Mr. Meher C. Nanavatty	Regional Adviser on Social Welfare Aspects of Family Planning, Social Development Division
Mr. K.A. Dikshit	Chief, Programme and Co-ordination Office
Mr. Bernard D. Dorkenoo	Chief, Information Service

United Nations Headquarters official

Mr. P. Sankar Menon	Special Assistant to the Director, Population Division, United Nations, New York

Special guest speaker

H.E. Mrs. Siva Obeyesekera	Deputy Minister of Health, Government of Republic of Sri Lanka

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Part Two

PAPERS

AN OVERVIEW OF LANGUAGE BARRIERS AND TRANSLATION NEEDS IN THE ESCAP REGION *

* Document POP/TPM/BP.1 This paper was prepared by the ESCAP Secretariat.

INTRODUCTION

A. The theoretical problem and its implications

1. A major obstacle to the exchange and dissemination of information is the existence of language barriers. Theoretically, if all publications on a particular subject were in a single language understood by everyone concerned, each publication would have an equal chance of being read. (In order to focus on the language factor, it is assumed here that all other factors - quality, cost, appeal etc. - are equal) If two languages (A and B) are involved, the situation becomes more complex. Some readers may understand both languages; others, only one. A reader with access to publications in only one language is therefore apt to receive a limited view of a given subject. The publications he is able to read may not adequately represent the full range of materials available, leaving him with an incomplete picture of the problem. Publications in a single language also tend to reflect local or national, social and cultural biases.

2. Considerations such as these focus on the question of access to publications, but patterns of access often determine patterns of use. For example, because English language publications may be more accessible than Thai publications, they may fill more shelves in libraries in the region and be quoted more often by researchers in the region - including Thai researchers - than Thai publications of similar quality. The technical level of the material presented in a publication and the educational background of the reader also help determine patterns of access and use.

3. The resulting patterns of access and use modify the flow and impact of information within and between countries, with unfortunate results in many instances.

(a) Within a country: Decision makers and planners may develop new programmes, or continue existing ones, based on insufficient or biased information resulting from inadequate patterns of access and use. One example raised at the First Asian Population Conference, held at New Delhi in 1963, suggested that:

> "perhaps because of the relative scarcity of morbidity statistics, as compared with those relating to mortality, programmes have a tendency to be biased towards mortality control rather than morbidity control. This is not harmful if the one is closely correlated with the other, but it is possible that such a bias has led to insufficient attention being given to conditions that might be described as chronic ill health with relatively low rates of fatality". 1/

This pattern of action can arise particularly if users of publications are unaware of the limited scope of the information base upon which their decisions rest. It may also occur when a decision maker, although aware, remains content to use only materials easily accessible to him. The language barrier is most serious here because translation of documents from another language is, at present, difficult, costly and time-consuming at the individual or single institution level. The result is extremely limited access to publications outside one's language. It also results in a lack of knowledge about research, trends and programmes in sections of the same countries speaking a different dialect.

(b) Between countries: Without access to publications of country B, country A may get a distorted or limited picture of that country or even, in extreme cases, no picture at all. This distorted, biased or non-existent flow of information between countries A and B may affect their attitudes and actions towards each other in a negative way.

4. In summary, the theoretical considerations given illustrate the fact that language barriers cause serious problems both on the international and national level.

B. The emergence of awareness in ESCAP

5. The Population Division of ESCAP became better informed on the language/translation problem during the preparation of the **Directory of Key Personnel and Periodicals in the field of Population in the ECAFE Region** 2/ since the survey included a question on the language of publication. The directory was later expanded and updated with the language question reappearing in each new survey.

6. In Asian Population Studies Series No. 8, **Research, Teaching and Training in Demography - A Directory of Institutions in the ECAFE Region** 3/ a detailed question was asked regarding the language proficiency of the research and teaching staff in each institution. The language of research publications

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1/ *Report of the Asian Population Conference and Selected Papers* (United Nations publication, Sales No. 65.II.F.11), p.11.

2/ United Nations publication, Sales No. E. 70. II F.14.

3/ United Nations document E/CN.11/1007.

and summaries of research findings was also requested.

7. Survey results confirmed that a problem existed. Although most professionals reported knowledge of several languages, they were either European languages or the language(s) of their own country. For example, an Indian would know Indian languages and/or English but not Japanese or Chinese. The surveys show that in the region's academic world there was a general reading knowledge of English and to a lesser degree there was reading knowledge of French and German. Through English, therefore, some contact between scholars of the region could be established, but scholars, administrators and information specialists lacked the necessary linguistic skills to understand population publications in the local languages of other countries.

8. The survey also showed considerable use of national languages in the population publications of certain countries. Also noted were changing patterns of language comprehension - away from international languages, towards national languages - as the new generation of locally trained scholars emerged in academic circles.

9. The Commission's directory of institutions of demography was mainly concerned with academic institutions. Since researchers and scholars are not representative of society at large, it is not possible to generalize from them. Limited data on governmental agencies and middle-level officials were available but it can be assumed that in non-English speaking countries the use of English or other foreign languages would raise problems, especially at subnational levels.

10. A second survey of population periodicals in the region[4] explored the language question further, revealing the extent to which local language was used. It showed that local periodicals, important in their own countries, were often unknown at the international level. Many did not have an International Standard Serial Number (ISSN) due in part to their being published in a local language and probably because some countries were unaware of the ISSN.

11. These results, particularly when considered in the context of increasing use of national languages, gave an indication of the scope of the problem and its possible consequences. The Population Division Clearing-house therefore became concerned with the implications of the language problem for the development and utilization of population information inside countries, between two or more of them and regionally or wider. It also became concerned with the effect of the language barrier on the efficient functioning of libraries, documentation centres, clearing-house and information systems.

C. The mandate to the United Nations from member countries

12. Although various aspects of population information, particularly that of dissemination, were debated at the First Asian Population Conference, no mention of language problems was recorded in the Conference report or its recommendations. However, considerable discussion of the population information problem, including language barriers, took place at the Second Asian Population Conference, held in Tokyo in November 1972.

13. The discussion on obstacles to the dissemination of information and knowledge took up the problem of language barriers.[5] Several recommendations were made in this area. These were that "in the interests of achieving the widest possible dissemination of research results throughout the region, necessary facilities should be created to assist appropriate translations."[6] but "translation into languages appropriate to the various countries of the region, was expensive though essential. Establishment of a regional clearing-house for translation was recommended, along with improved in-country services preceded by an expert working group meeting to establish guidelines. The United Nations multilingual Demographic Dictionary should be translated into as many Asian languages as possible."[7] Finally, the Conference recommended that "ESCAP should take the lead in bringing Asian scholars, policy-makers, and programme officials together to discuss innovative approaches to ... translation ... suited to Asian conditions."[8]

4/ *Population Periodicals - A Directory of Serial Population Publications in the ESCAP Region*, Asian Population Studies Series No.17 (E/CN.11/1176). For some highlights of the directory, see *Asian Population Programme News*; Vol. 2, No. 1, 1973, pp. 24-26 and "Periodicals in the ECAFE Region with special interest in population information", in *Population Strategy in Asia: The Second Asian Population Conference, Tokyo, November 1972, Report, Declaration and Selected Papers*, Asian Population Studies Series No.28 (E/CN.11/1152), pp. 428-437.

5/ *Population Strategy in Asia The Second Asian Population Conference, Tokyo. November 1972, Report, Declaration and Selected Papers*, Report of the Conference, chap. VIII sect. III

6/ *Ibid, chap.* VIII, recommendation 11.

7/ *Ibid*, recommendation 12.

8/ *Ibid*, recommendation 14.

14. At the World Population Conference held in Bucharest in 1974, it was also pointed out that "in order to achieve the widest possible dissemination of research results, translation activities should be encouraged at both the national and international levels. In this respect, the revision of the Multilingual Demographic Dictionary and its publication in additional languages is strongly recommended."[9/]

15. In order to carry out the mandate of the various population conferences it was necessary for the ESCAP Population Division Clearing-house to find and implement solutions to the problem at both the national and international levels.

I. THE SURVEY

A. The general design and purpose of the survey

16. As an exploratory step towards a better understanding of the language issue, the ESCAP secretariat in December 1974 carried out a region-wide survey of the translation situation in order to determine:

(a) Topics in the population field for which translated population information is needed (e.g., family planning, mortality);

(b) The priority order of those areas;

(c) The users of translations and the number of translated copies needed.

17. It is important to stress that, in order to be effective, that is to correct the distortions and gaps in information created by language barriers, translation programmes have to be integrated into the broader information effort.

18. Translation is a complex process involving a series of stages. Based on predetermined needs, documents for translation have to be selected, and categorized according to topic, quality, technical level and accessibility. Decisions have then to be made regarding complete or partial translation, adaptation or summation.

19. The Japanese Government, urged by ESCAP, agreed to set up a pilot project to test the technical operation of a translation programme while providing, at the same time, translated materials for use by other countries.

20. Thus the exploratory survey was carried out to lay the groundwork for a long-range, regional translation programme and to fulfil the immediate needs of the ESCAP/Japan pilot project. A discussion of the technical problems faced by the pilot project are presented in the background paper (POP/TPM/BP. 7) [10/] prepared by Mr. Toshio Kuroda, Institute of Population Problems, Tokyo, Japan. The interrelationship between the pilot project and the survey is shown in annex II, charts 1 and 2 in this paper.

B. Methodology and organization of the survey

21. Owing to the large number of organizations to be contacted, as well as time and financial limitations, the survey was conducted through a mail questionnaire. To encourage a high rate of response, the questionnaire was short. It was also simple, both in language structure and content, and it was presented as the first step in an action-oriented programme. Stress was placed on the fact that decisions made would be based on the results of the survey and respondents were promised copies of translations when they became available.

22. The questionnaire contained six basic questions which were directed to decisions necessary for the organization of a translation programme. These questions were:

(a) From which ESCAP countries should materials be translated?

(b) For what type of audience (administrators, university researchers/teachers, students)?

(c) What type of material should be translated (methodological, substantive, interrelational)?

(d) In what form (entire article, summary etc.)?

(e) In what languages?

(f) On what topics?

23. A list of 651 organizations and agencies in 34 countries, active or interested in the population field, was prepared by the ESCAP secretariat. Each ques-

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9/ *Report of the United Nations World Population Conference, 1974* (United Nations publication, Sales No. E. 75. XIII. 3), chap. I para. 92.

10/ See below. pp. 40

tionnaire was addressed to the head of the organization, as respondents were answering for the institution and not in their individual capacities. The organizations were divided into three basic categories:

(a) The first category comprised 165 governmental agencies (both at the central and provincial levels) active or interested in population. These agencies were mainly involved in family planning, public health, statistics and planning. Care was taken to include provincial government offices and to achieve a good geographical balance within each country. The list available was then submitted to Government representatives of the ESCAP countries for correction.

(b) The second category comprised 430 research and teaching institutions which were subdivided into two groups:

(i) A core group of 233 institutions known to be active in population studies; and

(ii) An additional group of 197 institutions which had requested the Commission's quarterly newsletter, the Asian Population Programme News.

(c) The third category was made up of 57 non-governmental organizations (NGOs) known to be active in the population field, particularly in family planning.

24. Each institute was sent a similar questionnaire; academic institutions and non-governmental organizations were contacted on 1 December 1974 while government agencies were contacted in the second half of December 1974 (after the list had been rechecked by the Permanent Representatives to ESCAP in Bangkok). To facilitate response, ESCAP population correspondents (289 in 28 countries) were informed of the survey and were requested to make sure questionaires sent to their institutions were completed. A reminder questionnaire was sent in January 1975 and a final reminder in March 1975.

A. Summary

25. (a) **Questionnaire returns.** Replies from 388 institutions in 31 countries (68 per cent) were received. Among the replies were 113 (68 per cent) from governmental agencies, 162 (76 per cent) from core academic institutions, 91 (54 per cent) from additional academic institutions and 37 (77 per cent) from non-governmental organizations.

(b) **Countries from which translated population materials were wanted.** The respondents expressed interest in many countries of the region and a high degree of interest in some countries. The countries most frequently mentioned were Japan (63.4 per cent), China (58.5 per cent), Indonesia (44.6 per cent) and India (44.3 per cent). Respondents also tended to be interested in their neighbouring countries.

(c) **Target audience of translated population materials.** The number of people reached by the institutions surveyed is considerable, showing that the total number of likely users of translated materials could be very high. Estimates given by respondents indicate total audience sizes of over 60,000 students, 13,000 teaching and research staff, 19,000 administrators, 40,000 others (e.g., extension workers).

(d) Materials most useful to target audiences. Three types of materials (methodological and theoretical, substantive, and interrelational) and three major types of audiences (students, academicians and administrators) were considered. All audiences showed a marked preference for substantive materials. Theoretical and methodological materials were ranked next in importance by academicians while administrators rated interrelational topics second in importance.

(e) Preferred form of translation. The majority (about 70 per cent) in each of the three categories of respondents (i.e. students, research and teaching staff, administrators) favoured having entire articles translated as opposed to summaries. This preference was especially pronounced among academicians (80 per cent).

(f) Language of translation. Ninety-five per cent of institutions could use translations in English, that is they indicated that translations could be in English alone, English and local language or English and other languages. However, 54 per cent of the institutions indicated that they would like to have translations in the local language. The preference for local language was especially marked in Bangladesh (93.3 per cent), Malaysia (81.8 per cent), Thailand (78.6 per cent) and the Republic of Korea (66.7 per cent).

(g) Topics for translation. Topics on which respondents want translations can be divided into several categories in terms of degree of interest expressed. Of maximum interest were demographic transition, population policy, family planning, manpower and employment. Widespread interest was also indicated in migration, environment and population,

urbanization, fertility, rural studies and population education.

B. The returns

26. A total of 651 questionnaires (see annex I, table 1) were distributed to the 34 ESCAP countries from which 388 replies (68 per cent) were received. This response rate can be considered satisfactory for a regional survey using mailed questionnaires. Among the replies, 53 (13 per cent) were negative responses, that is respondents reported that they were unable to complete the questionnaire because of insufficient activities in the population field, lack of interest in foreign materials or for other reasons.

27. Replies from 31 countries were received (China, Nauru and the Solomon Islands were the non-responding countries). Low rates of return were received from Burma, Mongolia and the Republic of South Viet-Nam, while the rest had over 50 per cent responding, with 17 countries showing response rates of over 70 per cent.

28. Governmental agencies showed a high rate of returns: 113 (68 per cent) replied and of these 98 (60 per cent) answered positively, indicating interest in the subject of the survey. It was initially feared that political or bureaucratic obstacles could have reduced the number of returns and that since governmental organizations were nationally oriented, there would be little interest in foreign materials. These doubts, however, proved unfounded.

29. Replies were received from 162 core academic institutions (76 per cent). The high response rate was to be expected as the sample surveyed was known to be active in the population field and many of the institutions were in regular contact with ESCAP. In comparison, the additional academic group had a much lower response rate from 91 respondents (54 per cent).

30. Non-governmental organizations had the highest response rate. Again, many organizations in this group were known to be actively involved in family planning activities. Replies were received from 37 respondents (77 per cent), indicating that these organizations were interested in the language issue and that perhaps translation efforts were needed by them for better communication with their constituents.

31. Generally, the high response rate and the well completed questionnaires indicate a substantial degree of interest in the subject. The keen response might also have been generated by the realization that the ESCAP translation programme was action-oriented and some definite conclusive results could be attained from it.

C. Country results

1. General interests and priorities.

32. In response to the question "From which countries in the ESCAP region would your institution generally like to have translated population materials?", the countries in which most interest was expressed were Japan (63 per cent), China (59 per cent), Indonesia (45 per cent) and India (44 per cent), the four most populated countries in the region.

33. Another group of seven countries emerged for which over 20 per cent of respondents expressed interest. These were Thailand, Philippines, Malaysia, Republic of Korea, Singapore, Australia and Pakistan.

34. There was less interest in the islands of the Pacific area and in land-locked countries, probably because the problems of the these countries might be considered as rather specific.

35. Respondents were asked to rank, according to priority, countries from which they wanted translated materials. Annex I, table 2B shows that when countries ranked top in priority were considered, the countries which respondents were most interested in were Japan, China and India. When the various priorities were taken into account, it could be seen that some countries were quite evenly spread out among the priorities (e.g. Thailand and Philippines) whereas others were quite well represented in the higher priorities, that is, ranked top (e.g. Australia, Bangladesh) or lower priorities (e.g., Iran, Pakistan, Sri Lanka). This seems to indicate that certain specific users were interested in these countries.

36. When the countries were regrouped into geographical zones (see annex I, table 2C), it appeared that East Asia was favoured in the first and second priority groups with Southeast Asia was also favoured in the second priority group.

37. When the priorities were weighted, that is, priority 1 accorded a weight of 6, and priority 6 weighted 1, it was found that the ranking of countries remained substantively unchanged.

2. Results from specific countries (see annex I, tables 2D and 2E and annex II, chart 3).

38. Countries from which there were 20 or more completed questionnaires were selected for further analysis. These countries were India (80 replies), Indonesia (42 replies), Australia and New Zealand (32 replies), Japan (30 replies), Philippines (29 replies), Thailand (25 replies), Republic of Korea (21 replies), Pakistan (20 replies).

39. A key point resulting from the analysis was the very high interest generally expressed in Japan, China and India, often with 70 per cent of the institutions in a country expressing interest in them. A second point was the tendency of countries to be interested in their neighbours.

40. The country breakdowns are as follows:

(a) Australia and New Zealand

(i) Interest in countries in general: main interest was in Indonesia (69 per cent), Japan (66 per cent) and China (63 per cent). Interest in other countries was not high and very widely distributed among respondents.

(ii) Interest in neighbours: there was little interest in neighbouring countries except Indonesia.

(b) India

(i) Interest in countries in general: main interest was in Japan and China (over 70 per cent) followed by interest in Bangladesh, Indonesia and Pakistan (around 40 per cent). When the priorities of the various countries were looked into, Japan, China and Bangladesh often appeared in the first three priorities, whereas Pakistan was in the lower priorities. India was also interested in a wide variety of countries in Asia.

(ii) Interest in neighbours: interest in neighbouring countries (e.g., Bhutan, Nepal etc.) could be discerned.

(c) Indonesia

(i) Interest in countries in general: main interest in India (76 per cent), the Philippines and Malaysia (67 per cent). The interest in Japan was also high (57 per cent).

(ii) Interest in neighbours: Indonesia respondents were interested in other countries of the Association of Southeast Asian Nations (ASEAN) - Malaysia, the Philippines, Singapore and Thailand - and Australia.

(d) Japan

(i) Interest in countries in general: main interest was China (77 per cent), Indonesia (77 per cent) and Thailand (70 per cent). There was some interest in the Republic of Korea (53 per cent) and India (50 per cent). It should be noted that China, the Republic of Korea and India were usually ranked very high in terms of priority. Japanese respondents, like those in India, showed some diversity of interests. This was indicated by requests for materials from countries for which other countries expressed little if any interest, for example, Mongolia.

(ii) Interest in neighbours: interest in neighbouring countries was not pronounced except in the case of China.

(e) Pakistan

(i) Interest in countries in general: main interest in Japan (90 per cent), China (80 per cent) and India (80 per cent); the three countries also had high priority rankings.

(ii) Interest in neighbours: interest was shown in the neighbouring countries of India (80 per cent), Iran (65 per cent) and Bangladesh (40 per cent).

(f) Philippines

(i) Interest in countries in general: the only country in which there was more than 70 per cent interest was China, which also ranked high on the priorities.

(ii) Interest in neighbours: the Philippines was interested in many other countries - India, Indonesia, Japan, Thailand, the Republic of Korea and Malaysia (over 40 per cent) and attention was not focused solely on its neighbours.

(g) Republic of Korea

(i) Interest in countries in general: interest in Japan was very high (81 per cent). There was also considerable interest in India (71 per cent), Thailand (71 per cent) and China (57 per cent); some interest was shown in the other ASEAN countries, Indonesia, Malaysia the Philippines, and Singapore.

(ii) Interest in neighbours: keen interest in neighbouring Japan could be clearly discerned, although interest in neighbouring China appeared to be less pronounced.

(h) Thailand

(i) Interest in countries in general: Thailand's interest was quite diversified. However there were five countries which interested over 40 per cent of the respondents: Japan, China, the Republic of Korea, the Philippines and Indonesia. Japan, China and the Republic of Korea were ranked in the high priority group.

(ii) Interest in neighbours: there was no distinct pattern of Thai interest in neighbouring countries.

41. After having described both general and specific interests in countries it could be concluded that:

(a) The interest in China, Japan and India was confirmed. The cumulated interest of the first three priorities was 75 per cent for China, 73 per cent for Japan (43 per cent being in the first priority) and 70 per cent for India, whereas the equivalent for Indonesia was 51 per cent (9 per cent in first priority) and the Republic of Korea 46 per cent (11 per cent in first priority).

(b) The general interest in neighbouring countries was also confirmed, for example, Afghanistan and Nepal are interested in India, and Singapore and Malaysia in Indonesia.

D. Audience size

42. Annex I, table 3 shows the distribution of audience (user sizes) supplied by the institutions to ESCAP. The potential number of people to be reached by the institutions surveyed is considerable. Student numbers and sizes of teaching and research staff were taken from academic institutions, while audience sizes of administrators were derived from governmental agencies and non-governmental organizations. Even when audience sizes of over 5,000 people were omitted to avoid possible gross overestimation, respondents indicated audience sizes of over 60,000, 13,000 and 19,000 for students, teaching and research staff and administrators respectively. Respondents also indicated that they reached over 40,000 people who fell into the "others" category, for example extension workers.

43. A follow-up questionnaire was sent in August 1975 to elicit more details on the audience size of institutions which had completed the questionnaire. This additional survey also sought to determine the geographical location of audiences and the minimum number of copies of English materials needed for the use of audiences reached by the institutions.

44. Meanwhile, from the tabulations of the returns of the exploratory survey, it could be seen that besides being large in total number, audiences also varied in size according to the categories under which they fell. Annex I, table 3 shows the distribution and sizes of various audiences (students, teaching and research staff and administrators) reached by the institutions. Student audiences were generally large in size and about 70 per cent of the institutions had over 50 students each. Institutions had smaller teaching and research staff and over 80 per cent had less than 50 members in this group. The number of administrators varied among agencies, but generally the audience size of administrators tended to be less than 100. Although this group was small in size, it nevertheless constituted a very important category of policy and decision makers.

E. Type of materials wanted

45. Three types of materials (methodological and theoretical, substantive, interrelational with other fields) and three major types of audiences (students, academicians and researchers, and administrators) were considered (see annex I, table 4). In general, the answers can be divided into two groups: one, which is more relevant, represents the preference for the category of the respondent (e.g. academicians answering for themselves and students, governmental institutions answering for administrators) and the other an opinion for an audience which respondents do not normally deal with (e.g., academicians answering for administrators). The preferences of the two groups are discussed below.

1. Materials preferred by respondents for their own category.

46. All three types of materials were considered useful or very useful since the range varied from 44 per cent for interrelational materials for students to 91 per cent for substantive ones for academics.

47. There was also general agreement among the three categories of respondents that substantive materials were more useful than the others. Such materials were given a slight preference by the academicians over theoretical informat on and were distinctly preferred to interrelational materials.

2. Opinions on material useful for other audiences.

48. It is worth noting the degree of coherence of

the opinions expressed with the estimate of the categories themselves. Academicians believed that students needed materials in the same priority as academicians and the governmental agencies agreed with this opinion. Non-governmental organizations generally stressed interrelational over theoretical material.

49. The governmental agencies saw the needs of academicians in the same way as the academicians, whereas NGOs considered all materials to be very useful to academicians. Academicians seldom expressed what they considered were the needs of administrators, but here again, together with the NGOs, their view coincided with that of the Government institutions.

F. Language of translation

50. In order to see if a common language could be utilized (e.g., translating from a local language to English) and also the extent to which programmes should consider translation from international into local languages, respondents were asked: "Which language should translations be in so that they would be most useful to your target audience (s)?"

51. The various categories used in table 5A of annex I need a few words of explanation:

(a) "English only" means that the institution wants documents in English only and in no other language.

(b) "English and/or local language" means that the institution would also like to have the document in their own language, e.g., English and Indonesian.

(c) "Other language" means a language other than English and local language, e.g., French in Laos or Russian in Mongolia etc.

1. General results

52. Table 5A shows that over 95 per cent of institutions can use translations in English. This was true of the three types of audiences surveyed. It was expected that many governmental agencies or NGOs might not be able to use English, but this was disproved. Of course, in a certain number of countries the answers for "English only" were expected (Australia, New Zealand etc.).

53. Only 3 per cent of responding institutions requested translation in the local language solely (i.e. only materials in the local language wanted). This low figure must be interpreted cautiously because most respondents probably saw little chance of documents being translated into their national language (e.g., Burmese, Bhutanese, Mongolian etc.).

54. This should not lead to an under-estimation of the demand for materials in the local language, as 51 per cent of the institutions indicated a desire for materials to be in the local language and English and/or another language. All indications available elsewhere show that the trend towards local language is likely to increase in view of nationalistic tendencies, governmental policies, a greater proportion of the professionals being trained in their own countries, a greater desire to reach national audiences etc.

55. Therefore, although English is an operational language, there are also strong arguments for organizing and funding translation from English into local languages if translation programmes are to have the greatest impact.

56. It should be noted that the three audiences surveyed are again remarkably homogeneous in their answers on this question.

57. Mention of the role of "other" languages is necessary. When the answers referring to this group of languages were regrouped it increased significantly to 15 per cent. However, the demand for each of these languages was too small to make translation generally worth-while for the Asian market.

2. Specific country results on the role of local language (see annex I, table 5B).

58. This table confirms the previous observations and indicates that, apart from Australia and New Zealand, the major countries of the region wish to have documents also translated into their local language. This survey result was not expected for so many countries. It was expected that Japan or the Republic of Korea would want texts in their language but not, for example, that many institutions in India or Hong Kong would wish to have translations available in Hindi (or other Indian languages) or Chinese.

G. Preferred form of translation

59. The information on this question is provided in annex I, table 6 and its results are somewhat surprising. A movement was expected in favour of translation of summaries rather than of entire articles, particularly from governmental agencies and NGOs,

since early evidence indicated their staff would be more interested in getting short information notes (because of lack of time for reading etc.).

60. The results did not support this assumption. The majority (51 per cent) favoured having the entire article translated, as compared to 24.3 per cent favouring summaries. However, academicians appeared more interested in having entire articles translated than did respondents in the other categories.

61. Several plausible explanations can be advanced:

(a) If a reader finds an interesting summary and then the article is not translated, it is of no help to him.

(b) Certain readers may feel they do not have the time or technical background to make their own summaries. By preferring an entire article, the reader expects selection to have been made for him.

62. It would be worth-while exploring the reasons for this relative lack of interest in summaries only because its implications may be critical for the setting up of translation programmes.

H. Topic results

63. When respondents were asked to select preferred topics of translation from a list of population-related topics, it was found that interest in the listed topics ranged from over 85 per cent to about 45 per cent (see annex I, table 7). This shows that respondents wanted to know more about most of the topics listed. They were primarily interested in demographic transition, environment and population, population policy, family planning, migration and distribution of population and manpower and employment. Least interest was shown in location, retrieval and dissemination of information, pregnancy termination (abortion), law and population and nuptiality (marriage and divorce).

64. Governmental agencies exhibited most interest in manpower and employment, demographic transition and population policy, while academic institutions preferred demographic transition, environment and planning, migration and distribution of population and urbanization.

65. From the preferred topics selected, respondents were next asked to select a maximum of six priority topics for which translations were wanted. The most favoured priority topics were family planning, population policy, manpower and employment, fertility and demographic transition. The least favoured ones were similar to the ones chosen from the preferred list mentioned above (see annex I, table 8).

66. Governmental agencies and academic institutions shared the same interests, opting for family planning, manpower and employment, demographic transition, population policy and fertility.

67. From the selections made (both for preferred and priority topics), it is seen that the list of topics in annex I, table 8 can be divided into four categories according to the interest shown by respondents:

(a) Maximum interest - includes demographic transition, population policy, family planning, manpower and employment;

(b) Great interest - includes migration, environment and population, urbanization, fertility, rural studies, population education;

(c) Substantial interest - includes family planning, programme organization, mortality, projections, status of women;

(d) Some interest - comprises location, retrieval and dissemination of information, nuptiality, pregnancy termination (abortion), law, and population housing.

68. This pattern was also seen in the analysis of country preferences (see annex I, table 9), although some differences among selected countries could be discerned.

(a) **New Zealand and Australia** - The two countries showed a distinct preference for migration and urbanization.

(b) **India** - Most interest placed on family planning, fertility and population policy.

(c) **Indonesia** - Interest highest in manpower and employment and family planning.

(d) **Japan** - Keenest interest shown in demographic transition, followed by environment and population and urbanization.

(e) **Pakistan** - Interest spread over many areas - family planning, population policy and migration.

(f) **Philippines** - Most interested in family planning and population education.

(g) **Republic of Korea** - Interest shown in population education, environment and family planning.

(h) **Thailand** - Highest preferences accorded to family planning and population education.

69. It seems, therefore, that any translation effort should initially focus on topics which have been categorized above as being of maximum or great interest to respondents. Given financial and time limitations, topics which are of less interest could be taken up at a later date. It is also worth-while to take country preferences into account, especially since information has to be tailored to fit the needs of specific countries.

III. CONCLUSIONS AND IMPLICATIONS OF THE SURVEY

A. Conclusions

70. It should be borne in mind that this was an exploratory and descriptive survey. It cannot adequately answer many of the questions which it raises directly or indirectly. The results are, however, clear enough to indicate possible first steps towards establishing a plan of action in this area.

71. As has been shown throughout the report there is considerable interest in translations from other countries. Although several major countries receive the greater share of interest, the level of interest expressed in the other countries is considerable.

72. The survey has shown the need for further exploration of language barriers in the population information field. It also reveals a lack of information in general about other countries and a real hunger for information. The survey therefore points to a strong need and desire for information to be circulated from one country to another.

73. This need, expressed positively by governmental agencies, academic institutions and non-governmental organizations in the region, implies that stronger information programmes have to be organized, staffed and funded both at national and international levels.

B. Implications for research

74. (a) Research is needed, first, into the reasons underlying the particular responses found in the survey. For example, why are institutions and countries interested (or not interested) in translations from certain others? Does the greater interest in materials from India rather than from Bangladesh or Pakistan imply that these two countries are less (or perhaps more) well known than India, or is it because many respondents consider India representative of that part of the region? Similar questions could be raised regarding the reasons for expressed interest (or lack of interest) in certain topics, the strong demand for entire article (versus summaries) and the question regarding language of translation. The normal procedure would be to organize translation programmes according to the priority topics revealed. But, why is there not a considerable interest in the other topics? Should there be? If so, what should be done about it in general, and in the context of the translation programme in particular? For example, should the relevance of law and population be emphasized? Given the considerable interest even in lower priority topics, should such topics be ignored in the first stage and taken up in the second, or should a minimum amount of translation be done on all topics from the outset? Another suggested area of research is the reasons for interest in local languages. Is this due to a desire to distribute the information widely inside a country at a "lower" level where knowledge of English is less generalized, or is it a significant reflection of a growing use of the national language? The necessity to organize translations into national languages would demand large inputs of time and money into the translation programme. It would also have repercussions on the number of copies printed and their distribution.

(b) Research is needed on the use and impact of translation. The problem here involves the long-term impact of users' needs on the translation effort. To understand translation, is it necessary to present the whole text to avoid misinterpretations (different cultural context, insufficient background knowledge on the country etc.)? Another type of question concerns the use and integration of foreign information, including translations, into subjects. How can materials available in foreign languages be put to more effective use? Answers to such questions are needed to help organize the programmes effectively.

(c) Research is needed on interest trends in countries, topics and languages. These questions need to be reassessed systematically and periodically to adjust programmes to continuing changes. In order to benefit as much as possible from such research and link it to programmes, it would be desirable to draw up a co-ordinated master plan in co-operation with concerned donor agencies and the countries of the ESCAP region. The ESCAP translation programme is a pilot project which could be expanded and promoted in other parts of the world. This should also

be tied in and standardized with systems of population and development information now being developed, e.g., AGRIS, DEVSIS. The feasibility of computerization should also be seriously explored.

C. Implications for population and information programmes

75. (a) Translation programmes have become necessary. Without going into details, it is apparent from the survey that translation programmes should be established and funded. This should be done at both country and international levels. These programmes should be systematic but flexible in order to select the major relevant documents properly while at the same time responding to limited, ad hoc demands in specific areas. Furthermore, these programmes should take into account the importance of local languages. Co-ordination between national and international efforts in this area is essential. International resources could perhaps concentrate on translations from local languages into international ones, while national resources could emphasize translations from international languages into the national ones. This is an area where donor agencies and non-governmental organizations can be of assistance.

(b) Translation programmes should be linked to other efforts in information. It is obvious that, in the ESCAP region, language barriers are becoming major factors in national and regional efforts to organize information systems. Once it has become clear that language barriers have serious effects on the information bases used by decision-makers and scholars, documentation centres and libraries, solutions will have to be sought to the problem. However, trying to solve the problem raises many technical difficulties, such as:

(i) Standardizing vocabularies, creating necessary words etc.;

(ii) Procedures for solving eventual conflicts on quality of translation, copyright etc.;

(iii) Distribution systems inside and outside region (which need supplementary funds);

(iv) Integration of information efforts in order that they reinforce each other; and

(v) Integration of bibliographic and reference materials in order to facilitate the selection process.

76. Given these difficulties, it is hoped that the ESCAP Expert Group Meeting on Translation of Population Materials can suggest concrete administrative and technical guidelines for the organization and co-ordination of translation programmes at the national and international levels.

ANNEX I

Table 1. Questionnaire distribution and returns [a] (at 15 July 1975)

ESCAP member country	Questionnaire distribution				Total
	Governmental agencies (distributed 20 December 1974)	Academic audience (distributed 1 December 1974)		NGO audience (distributed 1 December 1974)	
		Core group (in Directory, Asian Population Studies Series No. 8)	Additional group	(family planning only)	
Afghanistan	4(3)	-	2(2)	1(1)	7(6)
Australia	3(1)	15(13)	18(5)	2	38(19)
Bangladesh	4(4)	10(7)	7(3)	2(1)	23(15)
Bhutan	2(1)	-	-	-	2(1)
Burma	5	2(1)	3(1)	-	10(2)
Cambodia	3(2)	3(1)	-	-	6(3)
China	1	-	-	-	1
India	22(13)	50(31)	65(28)	10(8)	147(80)
Indonesia	17(10)	19(15)	26(14)	4(3)	66(42)
Iran	8(4)	7(3)	3(3)	1(1)	19(11)
Japan	3(1)	39(21)	18(6)	2(2)	62(30)
Laos	-	1(1)	-	-	1(1)
Malaysia	4(3)	2(1)	2(2)	6(5)	14(11)
Mongolia	4(1)	-	1	-	5(1)
Nauru	1	-	-	-	1
Nepal	4(4)	-	-	1(1)	5(5)
New Zealand	3(1)	10(9)	3(2)	4(1)	20(13)
Pakistan	18(9)	6(6)	11(5)	3	38(20)
Philippines	9(6)	16(15)	5(3)	5(5)	35(29)
Republic of Korea	7(4)	19(13)	7(3)	3(1)	36(21)
Republic of Viet-Nam	4	3(1)	11(2)	2(1)	20(4)
Singapore	3(3)	4(3)	-	-	7(6)
Sri Lanka	6(6)	6(3)	-	1(1)	13(10)
Thailand	8(8)	14(12)	8(5)	4(3)	34(28)
Tonga	2(2)	-	-	1(1)	3(3)
Western Samoa	2(2)	-	-	1	3(2)
Sub-total	147(88)	226(156)	190(84)	53(35)	616(363)
ESCAP associate member country					
Brunei	2(1)	-	-	-	2(1)
Cook Islands	1(1)	-	-	-	1(1)
Fiji	5(3)	-	1(1)	2(1)	8(5)
Gilbert and Ellice Islands	2(1)	-	-	-	2(1)
Hong Kong	3(2)	5(4)	6(6)	1(1)	15(13)
Papua New Guinea	2(1)	2(2)	-	-	4(3)
Solomon Islands	1	-	-	-	1
Trust Territory of the Pacific Islands	2(1)	-	-	-	2(1)
Sub-total	18(10)	7(6)	7(7)	3(2)	35(25)
Total and positive responses	165(98)	233(162)	197(91)	56(37)	651(388)
Negative responses [b]	(15)	(16)	(16)	(6)	(53)
Total responses	113	178	107	43	441
Percentage of responses [c]	68.5	76.4	54.8	76.8	67.7

a/ Numbers of returned questionnaires are in parentheses.
b/ "Negative responses" refer to institutions which reported insufficient activities in the population field or lack of interest in foreign materials.
c/ Includes negative responses.

Table 2A. Countries from which translated population materials are wanted[a/]

	Governmental agencies	Academic institutions [b/]	Non-governmental organizations	Total
Afghanistan	1(1)	15(5.9)	1(2.7)	17(4.4)
Australia	22(22.4)	58(22.9)	4(10.8)	84(21.6)
Bangladesh	14(14.3)	46(18.2)	7(18.9)	67(17.3)
Bhutan	1(1)	2(0.8)	-	3(0.8)
Burma	3(3.1)	24(9.5)	4(10.8)	31(8)
Cambodia	1(1)	5(2)	-	6(1.5)
China	48(48)	160(63.2)	19(51.4)	227(58.5)
India	50(51)	112(45.5)	10(27)	172(44.3)
Indonesia	39(39.8)	116(46.2)	18(48.6)	173(44.6)
Iran	16(16.3)	37(14.6)	14(37.8)	67(17.3)
Japan	73(74.5)	155(61.3)	18(48.6)	246(63.4)
Laos	1(1)	8(3.2)	1(2.7)	10(2.6)
Malaysia	32(32.7)	77(30.4)	12(32.4)	121(31.2)
Mongolia	2(2)	10(4)	-	12(3.1)
Nauru	-	-	-	-
Nepal	2(2)	6(2.4)	3(8.1)	11(2.8)
New Zealand	12(12.2)	16(6.3)	2(5.4)	30(7.7)
Pakistan	20(20.4)	50(19.8)	9(24.3)	79(20.4)
Philippines	32(32.7)	71(29.2)	21(56.8)	124(32)
Republic of Korea	29(29.6)	71(28.1)	7(18.9)	107(27.6)
Republic of Viet-Nam	3(3.1)	18(7.1)	2(5.4)	23(5.9)
Singapore	23(23.5)	48(19)	15(40.5)	86(22)
Sri Lanka	5(5.1)	33(13)	4(10.8)	42(10.8)
Thailand	37(37.8)	93(36.8)	15(40.5)	145(37.4)
Tonga	-	-	-	-
Western Samoa	2(2)	1(0.4)	-	3(0.8)
Brunei	-	1(0.4)	-	1(0.3)
Cook Islands	1(1)	2(0.8)	-	3(0.8)
Fiji	3(3.1)	5(2)	1(2.7)	9(2.3)
Gilbert and Ellice Islands	-	-	-	-
Hong Kong	8(8.2)	19(7.5)	4(10.8)	31(8)
Papua New Guinea	2(2)	5(2)	-	7(1.8)
Solomon Islands	-	2(0.8)	-	2(0.5)
Trust Territory of the Pacific Islands	-	3(1.2)	-	3(0.8)
Pacific Islands	-	3(1.2)	1(2.7)	4(1)

a/ Percentages are in parentheses.
b/ "Academic institutions" comprise institutions in core group and additional group.

Table 2B. Priority countries from which translated population materials are wanted[a/]

	1	2	3	4	5	6	Total
Afghanistan	4	2	6	1	3	1	17
Australia	21	14	10	9	18	12	84
Bangladesh	11	19	19	6	8	4	67
Bhutan	1	-	2	-	-	-	3
Burma	5	5	3	7	6	5	31
Cambodia	-	1	1	1	1	2	6
China	74	60	39	24	16	14	227
India	41	48	33	30	14	6	172
Indonesia	15	38	35	41	27	17	173
Iran	2	9	7	24	14	11	67
Japan	105	48	27	28	23	15	246
Laos	-	-	-	5	1	4	10
Malaysia	17	24	29	22	19	10	121
Mongolia	-	-	3	1	3	5	12
Nauru	-	-	-	-	-	-	-
Nepal	-	2	1	3	4	1	11
New Zealand	5	4	4	2	11	4	30
Pakistan	4	8	19	19	22	7	79
Philippines	5	20	25	24	29	21	124
Republic of Korea	12	22	15	23	17	18	107
Republic of Viet-Nam	1	-	4	1	11	6	23
Singapore	7	13	21	17	13	15	86
Sri Lanka	2	4	1	6	10	19	42
Thailand	18	13	33	27	23	31	145
Tonga	-	-	-	-	-	-	-
Western Samoa	-	-	-	2	1	-	3
Brunei	-	-	-	-	-	1	1
Cook Islands	-	-	2	-	1	-	3
Fiji	2	2	1	2	2	-	9
Gilbert and Ellice Islands	-	-	-	-	-	-	-
Hong Kong	-	2	3	7	8	11	31
Papua New Guinea	-	-	1	1	2	3	7
Solomon Islands	1	-	-	1	-	-	2
Trust Territory of the Pacific Islands	-	-	-	-	1	2	3
Pacific Islands	3	-	-	1	-	-	4

a/ Respondents were asked to rank countries from which translated population materials are wanted in order of priority (from 1 to 6).

Table 2C. Number of returns requesting translations from different zones in the region

Zones	1st priority	2nd priority
West and South Asia[a/]	65	92
Southeast Asia[b/]	68	114
East Asia[c/]	191	132
Pacific Area[d/]	32	20

a/ Afghanistan, Bangladesh, Bhutan, India, Iran, Nepal, Pakistan, Sri Lanka

b/ Brunei, Burma, Cambodia, Indonesia, Laos, Malaysia, Papua New Guinea, Philippines Republic of, Viet-Nam, Singapore, Thailand.

c/ China, Hong Kong, Japan, Mongolia, Republic of Korea.

d/ Australia, Cook Islands, Fiji, Gilbert and Ellice Islands, Nauru, New Zealand, Solomon Islands, Tonga, Trust Territory of the Pacific Islands, Western Samoa and requests for "Pacific Islands" generally.

Table 2D. Countries from which materials are wanted by specific countries (in priority order)[a/]

Countries which want materials / Countries from which materials wanted	Australia/New Zealand (N = 32)						India (N = 42)						Indonesia (N = 42)						Japan (N = 30)						Pakistan (N = 20)						Philippines (N = 29)						Republic of Korea (N = 21)						Thailand (N = 28)					
	1[b/]	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Afghanistan	-	-	-	1	-	-	2	-	2	-	2	1	-	-	-	-	-	-	-	1	1	-	1	-	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Australia	-	-	-	-	-	-	7	4	3	3	3	3	4	1	2	1	6	1	1	-	-	2	-	2	-	-	1	-	5	1	3	1	-	-	2	2	1	-	-	-	-	1	-	1	-	1	1
Bangladesh	-	-	-	-	-	2	6	11	10	1	3	1	1	1	2	-	1	-	-	2	1	2	-	-	1	1	3	1	2	-	1	-	1	-	-	8	1	-	-	1	-	-	-	-	-	-	-	-
Bhutan	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Burma	-	1	-	-	-	1	-	2	1	2	2	1	2	1	-	-	-	-	1	1	-	1	-	3	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	1	-	-	1	-	-
Cambodia	-	-	1	-	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	6	9	1	3	1	-	21	13	11	6	1	4	5	3	3	3	2	1	15	3	3	1	1	-	4	6	1	3	2	-	4	8	4	1	2	3	5	-	4	1	1	1	1	5	4	3	2	1
India	3	3	1	2	2	-	-	-	-	-	-	-	7	11	4	5	4	1	3	8	2	2	-	-	3	4	6	3	-	-	3	4	4	4	1	-	3	5	-	3	2	2	3	-	2	4	-	2
Indonesia	3	8	7	1	1	2	2	8	4	11	5	7	-	-	-	-	-	-	3	3	7	6	4	-	-	1	-	3	1	3	3	2	3	4	3	1	-	1	1	2	2	1	-	-	2	5	4	1
Iran	-	-	-	2	1	-	-	3	2	7	3	3	-	-	1	-	-	-	-	2	2	-	1	1	1	2	1	3	4	2	-	-	-	-	1	1	-	-	-	-	1	-	-	-	-	1	1	1
Japan	12	3	1	3	2	-	25	13	10	6	4	4	7	3	2	2	7	3	-	-	-	-	-	-	3	2	3	2	2	1	8	3	2	2	1	-	7	4	3	2	-	1	9	4	-	2	3	-
Laos	-	-	-	2	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malaysia	2	2	4	1	-	1	1	4	-	3	3	5	7	8	7	4	1	1	1	-	2	1	3	-	-	-	-	-	-	-	3	4	1	2	-	2	-	1	2	3	1	-	1	2	1	1	3	1
Mongolia	-	-	1	-	-	-	-	-	1	-	2	1	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Nauru	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nepal	-	-	-	-	-	-	1	1	-	1	3	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Zealand	-	-	-	-	-	-	-	-	2	-	1	-	-	1	1	-	-	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	1	1	-	-	-	-	1	1
Pakistan	-	-	-	2	2	1	5	3	4	8	8	2	-	1	2	4	2	-	-	-	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2	-	-	-
Philippines	-	-	1	-	3	2	-	3	6	5	4	3	1	4	6	10	5	3	-	1	1	2	2	1	-	-	-	-	1	2	-	-	-	-	-	-	1	2	4	2	1	-	2	2	3	2	3	3
Republic of Korea	-	-	2	-	2	1	1	3	3	4	3	4	1	1	2	3	1	2	4	3	-	3	4	2	-	1	-	-	-	-	2	1	3	5	-	1	-	-	-	-	-	-	2	8	4	-	1	-
Republic of Viet-Nam	-	-	-	1	2	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	1	-	3	1	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-	-	1	1	-	-	2	-	1	-
Singapore	-	-	1	1	1	1	-	1	3	1	-	4	1	4	4	4	3	3	-	-	1	-	1	1	-	-	-	-	-	-	-	2	2	2	1	-	-	3	1	1	1	1	4	1	1	-	-	1
Sri Lanka	-	1	-	-	1	1	1	2	-	2	5	6	-	-	-	-	1	2	-	-	-	1	-	2	1	-	-	1	-	2	-	-	-	-	2	-	-	1	-	2	-	-	-	-	-	-	-	1
Thailand	1	1	2	1	-	2	1	2	8	4	7	2	6	-	-	3	3	3	4	1	4	5	5	1	5	-	-	-	1	-	2	-	2	6	3	2	1	2	1	3	2	4	2	-	-	-	-	-
Tonga	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Western Samoa	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brunei	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Cook Islands	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fiji	-	-	-	1	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gilbert and Ellice Islands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hong Kong	-	-	-	-	-	1	-	-	-	1	3	-	-	-	-	-	-	3	-	-	1	-	2	-	-	-	-	-	-	1	-	-	-	1	2	-	-	1	-	2	-	3	-	1	1	2	-	-
Papua New Guinea	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solomon Islands	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Trust Territory of the Pacific Islands	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-
Pacific Islands	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-

a/ From priority 1 to 6.
b/ Priority.

Table 2E. Countries from which materials are wanted by specific countries

Country from which materials wanted / Country wanting materials	Australia/ New Zealand (N = 32)	India (N = 80)	Indonesia (N = 42)	Japan (N = 30)	Pakistan (N = 20)	Philippines (N = 29)	Republic of Korea (N = 21)	Thailand (N = 28)
Afghanistan	1 (3)[a]	7 (9)	- -	3 (10)	4 (20)	- -	- -	1 (4)
Australia	- -	23 (29)	15 (36)	5 (17)	7 (35)	8 (28)	1 (5)	4 (14)
Bangladesh	2 (6)	32 (40)	5 (12)	5 (17)	8 (40)	2 (7)	3 (14)	1 (4)
Bhutan	- -	2 (3)	- -	- -	- -	- -	- -	- -
Burma	2 (6)	8 (10)	3 (7)	6 (20)	- -	2 (7)	- -	2 (7)
Cambodia	3 (9)	1 (1)	- -	1 (3)	- -	- -	- -	- -
China	20 (63)	56 (70)	14 (33)	23 (77)	16 (80)	22 (76)	12 (57)	16 (57)
India	11 (34)	- -	32 (76)	15 (50)	16 (80)	16 (55)	15 (71)	11 (39)
Indonesia	22 (69)	37 (46)	- -	23 (77)	8 (40)	16 (55)	9 (43)	12 (43)
Iran	3 (9)	18 (23)	1 (2)	6 (20)	13 (65)	2 (7)	1 (5)	3 (11)
Japan	21 (66)	62 (78)	24 (57)	- -	18 (90)	16 (55)	17 (81)	18 (64)
Laos	3 (9)	1 (1)	- -	1 (3)	- -	1 (3)	- -	- -
Malaysia	10 (31)	16 (20)	28 (67)	7 (23)	- -	12 (41)	7 (33)	9 (32)
Mongolia	1 (3)	4 (5)	- -	3 (10)	- -	1 (3)	- -	1 (4)
Nauru	- -	- -	- -	- -		- -	- -	- -
Nepal	- -	7 (9)	- -	1 (3)	1 (5)	- -	- -	- -
New Zealand	- -	3 (4)	3 (7)	2 (7,	- -	3 (10)	2 (10)	2 (7)
Pakistan	5 (16)	30 (38)	9 (21)	4 (13)	- -	- -	1 (5)	2 (7)
Philippines	6 (19)	21 (26)	29 (69)	7 (23)	3 (15)	- -	10 (48)	15 (54)
Republic of Korea	5 (16)	18 (23)	10 (24)	16 (53)	1 (5)	12 (41)	- -	15 (54)
Republic of Viet-Nam am	3 (9)	2 (3)	- -	5 (17)	- -	3 (10)	2 (10)	3 (11)
Singapore	4 (12)	9 (11)	19 (45)	3 (10)	- -	7 (24)	7 (33)	7 (25)
Sri Lanka	3 (9)	16 (20)	3 (7)	1 (3)	4 (20)	2 (7)	3 (14)	1 (4)
Thailand	7 (22)	24 (30)	19 (45)	21 (70)	3 (15)	14 (48)	14 (67)	- -
Tonga	- -	- -	- -	- -	- -	- -	- -	- -
Western Samoa	1 (3)	- -	- -	- -	- -	- -	- -	- -
Brunei	- -	- -	- -	- -	- -	- -	- -	1 (4)
Cook Islands	1 (3)	1 (1)	- -	- -	- -	- -	- -	- -
Fiji	2 (6)	1 (1)	- -	- -	- -	- -	- -	- -
Gilbert and Ellice Islands	- -	- -	- -	- -	- -	- -	- -	- -
Hong Kong	1 (3)	4 (5)	3 (7)	3 (10)	1 (5)	3 (10)	6 (29)	4 (14)
Papua New Guinea	1 (3)	1 (1)	1 (2)	- -	- -	- -	- -	- -
Solomon Islands	- -	1 (1)	- -	- -	- -	1 (3)	- -	- -
Trust Territory of the Pacific Islands	- -	1 (1)	1 (2)	- -	- -	1 (3)	1 (5)	- -
Pacific Islands	2 (6)	- -	- -	- -	- -	- -	- -	1 (4)

a/ The figures in parentheses represent percentage of (N)

Table 3. Distribution of audience size by type of audience

Audience size[b] / Audience[a]	Students	Teaching and research staff	Administrators	Others
1 - 20	42(10.8)	178(45.9)	116(29.9)	31(8)
21 - 50	46(11.9)	80(20.6)	53(13.7)	18(4.6)
51 - 100	52(13.4)	36(9.3)	22(5.7)	12(3.1)
101 - 200	43(11.1)	25(6.4)	18(4.6)	9(2.3)
201 - 300	15(3.9)	7(1.8)	4(1)	5(1.3)
301 - 400	7(1.8)	3(0.8)	3(0.8)	1(0.3)
401 - 500	18(4.6)	8(2.1)	11(2.8)	6(1.5)
501 - 1000	26(6.7)	5(1.3)	1(0.3)	6(1.5)
1001 - 5000	19(4.9)	4(1)	3(0.8)	10(3)
Over 5000	11(2.8)	-	1(0.3)	5(1.3)
Do not know or no answer	108(27.8)	42(10.8)	156(40.2)	285(73.5)

a/ Includes governmental agencies, academic institutions and non-governmental organizations.

b/ Percentages are in parentheses.

Table 4. Materials most useful to target audiences[a/]

Audience	Governmental agencies			Academic institutions			Non-governmental organizations			Total		
Type of audience	Students	Teaching and research staff	Administrators	Students	Teaching and research staff	Administrators	Students	Teaching and research staff	Administrators	Students	Teaching and research staff	Administrators
Methodological and theoretical	37(37.8)	66(67.3)	54(55.1)	175(69.2)	216(85.4)	48(19)	11(29.7)	25(67.6)	18(48.6)	223(57.5)	307(79.1)	120(30.9)
Substantive	38(38.8)	70(71.4)	70(71.4)	188(74.3)	230(90.9)	100(39.5)	20(54.1)	25(67.6)	28(75.7)	246(63.4)	325(83.8)	198(51)
Interrelational between population and other fields	17(17.3)	47(48)	59(60.2)	111(43.9)	171(67.6)	72(28.5)	17(45.9)	23(62.2)	24(64.9)	145(37.4)	241(62.1)	155(39.9)

a/ Percentages in parentheses.

Table 5. Language of translation (languages in which audiences want translations) by audience[a/]

Language / Audience	Governmental agencies	Academic institutions	Non-governmental organizations	Total
English only	43(43.9)	100(39.5)	8(21.6)	151(39)
English and local language	39(40.2)	102(40.3)	18(48.6)	159(41.1)
English and other language	5(5.2)	13(5.1)	1(2.7)	19(4.9)
English and local language and other language	6(6.2)	24(9.5)	9(24.3)	39(10.1)
Local language and other language (excluding English)	-	1(0.4)	-	1(0.3)
Local language only	3(3.1)	7(2.8)	1(2.7)	11(2.8)
Other language only	-	2(0.8)	-	2(0.5)
Do not know or no answer	2(2.1)	4(1.6)	-	6(1.6)
Total	98	253	37	388

a/ Percentages are in parentheses.

Table 5A. Countries wanting local language

Country	Number of respondents wanting local language [a]	
Afghanistan	5	(83.3)
Australia	-	(0)
Bangladesh	14	(93.3)
Bhutan	-	(0)
Burma	-	(0)
Cambodia	1	(33.3) [b]
China	-	(0)
India	38	(47.5)
Indonesia	33	(78.6)
Iran	8	(72.7)
Japan	17	(56.7)
Laos	1	(100) [b]
Malaysia	9	(81.8)
Mongolia	-	(0)
Nauru	-	(0)
Nepal	2	(40) [b]
New Zealand	-	(0)
Pakistan	14	(70)
Philippines	7	(24.1)
Republic of Korea	14	(66.7)
Republic of Viet-Nam	1	(25) [b]
Singapore	1	(16.7) [b]
Sri Lanka	8	(80)
Thailand	22	(78.6)
Tonga	1	(33.3) [b]
Western Samoa	1	(50) [b]
Brunei	1	(100) [b]
Cook Islands	-	(0)
Fiji	-	(0)
Gilbert and Ellice Islands	-	(0)
Hong Kong	11	(84.6)
Papua New Guinea	1	(33.3) [b]
Solomon Islands	-	(0)
Trust Territory of the Pacific Islands	-	(0)
Pacific Islands	-	(0)
Total	210 [c]	

a/ Percentages are in parentheses.
b/ Sample size too small for percentages to be meaningful.
c/ 54.1 per cent of total number of respondents.

Table 6. Preferred form of translation by audience [a]

Preferred form / Audience	Governmental agencies	Academic institutions	Non-governmental organizations	Total
Summary only	33 (33.7)	47 (18.6)	14 (37.8)	94 (24.3)
Entire article only	40 (41.2)	142 (56.1)	16 (43.2)	198 (51)
Summary and article	24 (24.7)	61 (24.1)	7 (18.9)	92 (23.7)
Do not know or no answer	1 (1)	3 (1.2)	-	4 (1)
Total	98	253	37	388

a/ Percentages are in parentheses.

Table 7. Preferred topics of translation by audience [a/]

Topic \ Audience	Governmental agencies	Academic institutions	Non-Governmental organizations	Total
(a) Demographic transition	84 (85.7)	216 (85.4)	25 (67.6)	325 (83.8)
(b) Environment and population	77 (78.6)	214 (84.6)	28 (75.7)	319 (82.2)
(c) Family planning	79 (80.6)	198 (78.3)	32 (86.5)	309 (79.6)
(d) Family planning programme organization	66 (67.3)	159 (62.8)	34 (91.9)	259 (66.8)
(e) Fertility	78 (79.6)	197 (77.9)	21 (56.8)	296 (76.3)
(f) Housing	55 (56.1)	152 (60.1)	19 (51.4)	226 (58.2)
(g) Law and population	49 (50)	129 (51)	25 (67.6)	203 (52.3)
(h) Location, retrieval and dissemination of information	45 (45.9)	113 (44.7)	18 (48.6)	176 (45.4)
(i) Manpower and employment	86 (87.8)	196 (77.5)	25 (67.6)	307 (79.1)
(j) Migration and distribution of population	82 (83.7)	204 (80.6)	23 (62.2)	309 (79.6)
(k) Mortality	69 (70.4)	187 (73.9)	17 (45.9)	273 (70.4)
(l) Nuptiality (marriage and divorce)	55 (56.1)	134 (53)	16 (43.2)	205 (52.8)
(m) Population education	71 (72.4)	179 (70.8)	34 (91.9)	284 (73.2)
(n) Population policy	84 (85.7)	202 (79.8)	30 (81.1)	316 (81.4)
(o) Pregnancy termination (abortion)	50 (51)	125 (49.4)	19 (51.4)	194 (50)
(p) Projections	78 (79.6)	169 (66.8)	16 (43.2)	263 (67.8)
(q) Rural studies	63 (64.3)	199 (78.7)	24 (64.9)	286 (73.7)
(r) Status of women	57 (58.2)	150 (59.3)	29 (78.4)	236 (60.8)
(s) Urbanization	80 (81.6)	203 (80.2)	19 (51.4)	302 (77.8)

a/ Percentages are in parentheses.

Table 8. Priority a/ topics for which translations are requested by audience b/

Topic	Audience: Governmental agencies	Academic institutions	Non-governmental organizations	Total
(a) Demographic transition	41 (41.8)	109 (43.1)	11 (29.7)	161 (41.5)
(b) Environment and population	28 (28.6)	103 (40.7)	13 (35.1)	144 (37.1)
(c) Family planning	48 (49)	120 (47.4)	26 (70.3)	194 (50)
(d) Family planning programme organization	29 (29.6)	48 (19)	16 (43.2)	93 (24)
(e) Fertility	43 (43.9)	109 (43.1)	10 (27)	162 (41.8)
(f) Housing	13 (13.3)	28 (11.1)	2 (5.4)	42 (10.8)
(g) Law and population	10 (10.2)	17 (6.7)	5 (13.5)	32 (8.2)
(h) Location, retrieval and dissemination of information	5 (5.1)	16 (6.3)	4 (10.8)	25 (6.4)
(i) Manpower and employment	47 (48)	107 (42.3)	8 (21.6)	162 (41.8)
(j) Migration and distribution of population	39 (39.8)	98 (38.7)	4 (10.8)	141 (36.3)
(k) Mortality	29 (29.6)	79 (31.2)	4 (10.8)	112 (28.9)
(l) Nuptiality (marriage and divorce)	6 (6.1)	22 (8.7)	3 (8.1)	31 (8.1)
(m) Population education	32 (32.7)	90 (35.6)	27 (73)	149 (38.4)
(n) Population policy	47 (48)	108 (42.7)	13 (35.1)	168 (43.3)
(o) Pregnancy termination (abortion)	15 (15.3)	19 (7.5)	3 (8.1)	37 (9.5)
(p) Projections	36 (36.7)	49 (19.4)	2 (5.4)	57 (14.7)
(q) Rural studies	22 (22.4)	81 (32)	13 (35.1)	116 (29.9)
(r) Status of women	8 (8.2)	27 (10.7)	11 (29.7)	46 (11.9)
(s) Urbanization	28 (28.6)	87 (34.4)	5 (13.5)	120 (30.9)

a/ Respondents were asked to select the top six topics for which translations are wanted.
b/ Percentages are in parentheses.

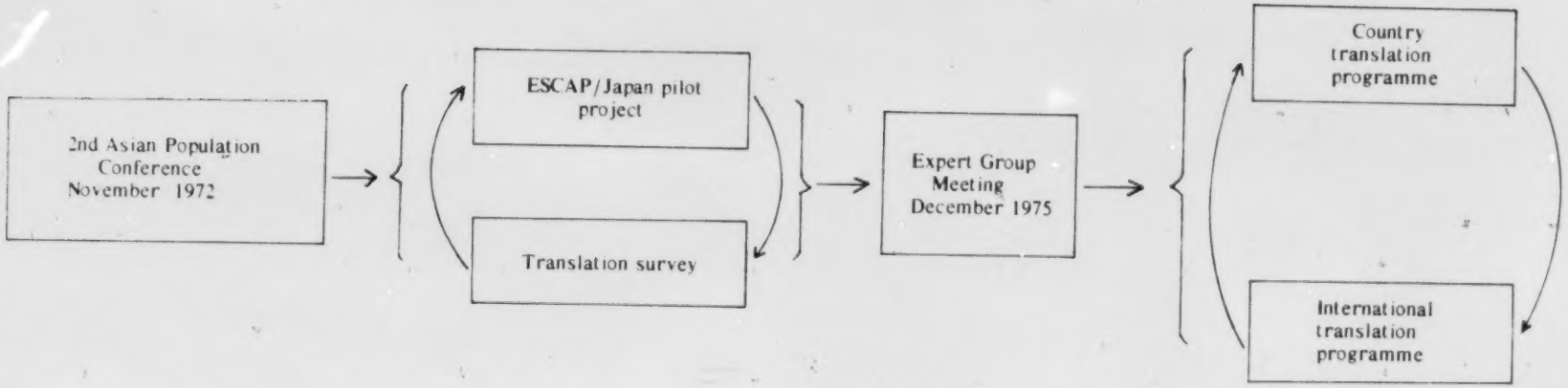
Table 9. Preferred and priority topic of specific countries[a/]

Topic / Country	Australia/ New Zealand (N = 32)		India (N = 80)		Indonesia (N = 42)		Japan (N = 30)		Pakistan (N = 20)		Philippines (N = 29)		Republic of Korea (N = 21)		Thailand (N = 28)	
	Preferred	Priority	Preferred	Priority	Preferred	Priority	Preferred	Priority	Preferred	Priority	Preferred	Priority	Preferred	Priority	Preferred	Priority
(a) Demographic transition	26 (81)	18 (56)	71 (89)	26 (33)	36 (86)	20 (48)	24 (48)	14 (47)	17 (85)	12 (60)	22 (76)	9 (31)	15 (71)	7 (33)	21 (75)	10 (36)
(b) Environment and population	27 (84)	13 (41)	65 (81)	21 (26)	33 (79)	18 (43)	21 (70)	11 (37)	16 (80)	5 (25)	24 (83)	12 (41)	18 (86)	12 (57)	25 (89)	15 (54)
(c) Family planning	22 (69)	7 (22)	69 (86)	46 (58)	36 (86)	25 (60)	11 (37)	7 (23)	17 (85)	8 (40)	25 (86)	15 (51)	16 (76)	12 (57)	26 (93)	19 (68)
(d) Family planning programme organization	15 (47)	5 (16)	59 (74)	29 (36)	33 (79)	6 (14)	11 (37)	1 (3)	13 (65)	2 (10)	21 (72)	6 (21)	13 (62)	6 (29)	25 (89)	9 (32)
(e) Fertility	25 (78)	16 (50)	61 (76)	39 (49)	32 (76)	16 (38)	18 (60)	10 (33)	16 (80)	10 (50)	22 (76)	11 (38)	16 (76)	8 (38)	22 (79)	11 (39)
(f) Housing	12 (38)	2 (6)	49 (61)	6 (8)	30 (71)	5 (12)	13 (43)	2 (7)	12 (60)	2 (10)	18 (62)	2 (7)	11 (52)	4 (19)	18 (64)	5 (18)
(g) Law and population	11 (34)	1 (3)	40 (50)	2 (3)	30 (71)	4 (10)	7 (23)	- -	8 (40)	1 (5)	19 (66)	3 (10)	13 (62)	4 (19)	21 (75)	3 (11)
(h) Location, retrieval and dissemination of information	10 (31)	1 (3)	41 (51)	8 (10)	23 (55)	2 (5)	7 (23)	1 (3)	7 (35)	- -	16 (55)	5 (17)	7 (33)	- -	18 (64)	1 (4)
(i) Manpower and employment	23 (72)	10 (31)	59 (74)	23 (29)	40 (95)	28 (67)	19 (63)	10 (33)	15 (75)	7 (35)	25 (86)	10 (35)	16 (76)	8 (38)	24 (86)	13 (46)
(j) Migration	28 (88)	19 (59)	66 (83)	24 (30)	38 (91)	19 (45)	18 (60)	10 (33)	17 (85)	10 (50)	22 (76)	10 (35)	14 (67)	2 (10)	21 (75)	12 (43)
(k) Mortality	26 (81)	14 (44)	57 (71)	26 (33)	26 (62)	12 (29)	15 (50)	6 (20)	17 (85)	7 (35)	20 (69)	9 (31)	16 (76)	6 (29)	22 (79)	8 (29)
(l) Nuptiality (marriage and divorce)	14 (44)	3 (9)	41 (51)	3 (4)	25 (60)	3 (7)	10 (33)	2 (7)	12 (60)	1 (5)	17 (59)	5 (17)	12 (57)	4 (19)	18 (64)	2 (7)
(m) Population education	11 (34)	4 (13)	67 (84)	37 (46)	33 (79)	20 (48)	9 (30)	1 (3)	16 (80)	6 (30)	26 (90)	15 (52)	18 (86)	13 (62)	25 (89)	14 (50)
(n) Population policy	28 (88)	14 (44)	70 (88)	39 (49)	32 (76)	9 (21)	14 (47)	7 (23)	18 (90)	7 (35)	22 (76)	5 (17)	17 (81)	10 (48)	25 (89)	17 (61)
(o) Pregnancy termination (abortion)	12 (38)	1 (3)	45 (56)	12 (15)	23 (55)	1 (2)	10 (33)	1 (3)	8 (40)	1 (5)	12 (41)	2 (7)	14 (67)	3 (14)	19 (68)	4 (14)
(p) Projections	18 (56)	8 (25)	57 (71)	22 (28)	31 (74)	12 (29)	13 (43)	4 (13)	16 (80)	7 (35)	19 (66)	6 (21)	12 (57)	2 (10)	20 (71)	3 (11)
(q) Rural studies	22 (69)	10 (31)	71 (89)	30 (38)	39 (93)	19 (45)	13 (43)	6 (20)	16 (80)	7 (35)	23 (80)	11 (38)	12 (57)	3 (14)	24 (86)	7 (25)
(r) Status of women	17 (53)	4 (13)	55 (69)	16 (20)	32 (76)	2 (5)	8 (27)	- -	15 (75)	5 (25)	17 (59)	4 (14)	11 (52)	4 (19)	20 (71)	3 (11)
(s) Urbanization	28 (88)	19 (59)	67 (84)	28 (35)	35 (83)	11 (26)	19 (63)	10 (33)	17 (85)	4 (20)	21 (72)	4 (14)	15 (71)	7 (33)	20 (71)	8 (29)

a/ Percentages are in parentheses.

Annex II

Chart 1 Schematic representation of proposed ESCAP translation programme



(N.B.: the ⟨ arrows indicate interaction)

Chart 2 Interrelationship between ESCAP/Japan pilot project and ESCAP exploratory survey

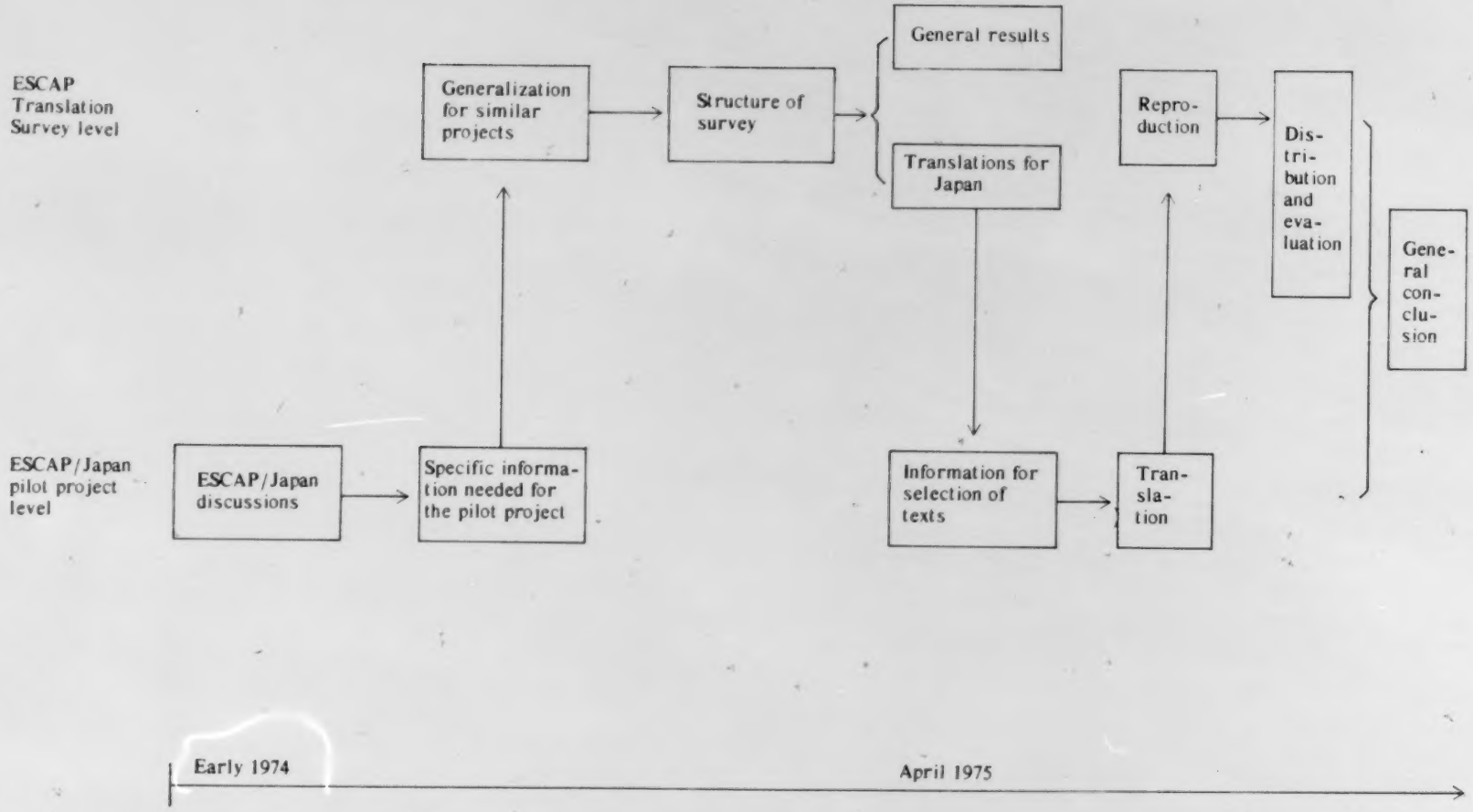
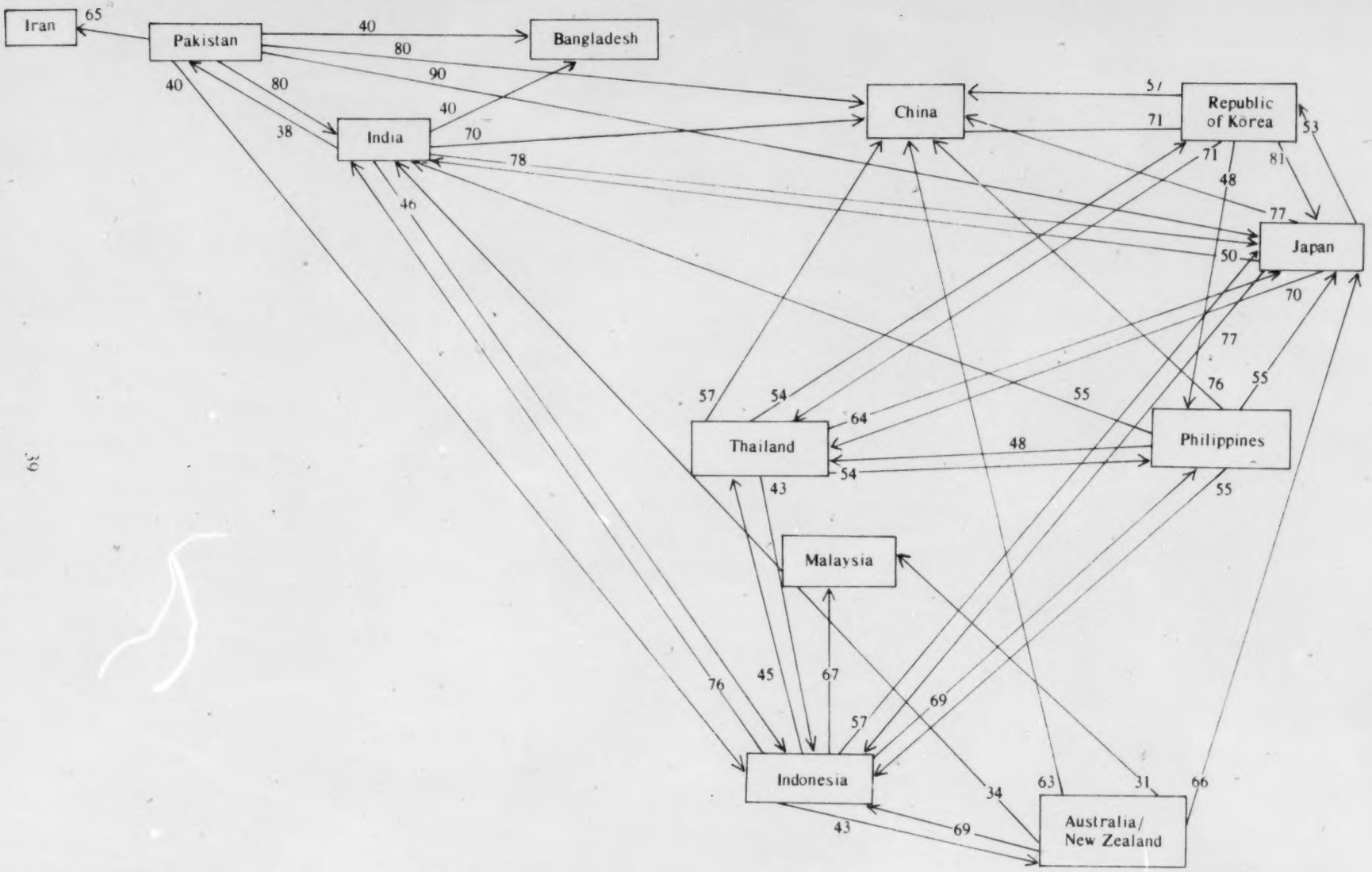


Chart 3 Highest demand from selected countries [a] for materials [b]



a/ Australia/New Zealand, India, Indonesia, Japan, Pakistan, Philippines, Republic of Korea, Thailand.

b/ Only the top countries chosen by the countries listed in a/ are represented in the chart.

A BRIEF NOTE ON TECHNICAL TRANSLATION AND QUALITY CONTROL *

* Document POP/TPM/BP.2. This paper was prepared by the ESCAP secretarait.

INTRODUCTION

1. Translating has became a full-time, professional activity. One reason for this has been the vast and rapid advance in science and technology as well as the need for an ever-widening exchange of information all over the world, be it between countries, institutions or individual scholars. So the need for translation— at all technical and scientific levels and in a formidable array of subject matter — does not have to be further elaborated. However, it needs to be reiterated that a good translation is by no means a luxury in terms of time and money. On the contrary, it is a most useful and money-saving operation. More-often than not, a translation done by someone who is not professionally qualified will lead to mistakes resulting in misinformation, erroneous data for further research or reference, defaults in contracts etc., entailing a waste of time and money.

2. A good translation includes accuracy and style. Those who think that style has no part in a text on morbidity ratios, for example, should be reminded that style refers to correct grammar and smooth reading, not literaryism or floweriness. In a good translation, all traces of the original language should disappear. A new original appears with every technical term or concept rendered with its accurate meaning. There is no intermediate.

3. As an example, one could quote a manual on translating which gives a sentence translated from a Russian paper as originally produced and an improved version. The original read as follows:

> "During the course of last summer in our country and abroad there was carried out work on the application in tyres of cord of increased thickness, which lowered the number of plies of the carcass."

The improved version read:

> "Work was carried out during the Summer of 1967, both in Russia and elsewhere, on the use in tyres of cord of increased thickness, thus allowing the number of plies in the carcass to be reduced."

4. Reading the original Russian text, however, a professional translator could not fail to notice that both versions contain a gross mistake, stemming from a lack of grammatical knowledge and vocabulary: "during the course of last Summer" and "during the Summer of 1967" should in fact read "in the recent past".....

5. To take another example, soon after the Second World War, deliveries under a trade agreement between France and the United States of America had to be brought to an immediate stop because the translator had misconstrued American "corn" as British "wheat".

6. The scope of this note is to determine who should be entrusted with the task of translating technical or scientific materials, what the procedures involved are and how to achieve a maximum of quality control. According to some, a technician having a fair command of a foreign language would be best qualified. According to others, a translator well versed in one or more technical subject-matters is a natural for the job. The merits of both alternatives will be briefly considered and a possible solution will be outlined.

I. THE TECHNICIAN IN TRANSLATOR'S CLOTHES

7. The technician has the definite advantage of being fully versed in his own field of competence and constantly abreast of increasingly rapid changes in technology. Most of the time, while translating a text, he will immediately recognise and understand the terms pertaining to his own field without having to look them up in a dictionary. Therefore, one can be almost fully assured of the accuracy of the technical terms rendered from the source language (SL), into the target language (TL), the language into which a translation is made. The technician's linguistic knowledge is far from perfect. He may be able to converse, read and even write in a foreign language — but this is not all it takes to deliver a good and accurate translation, even if the target language is his mother tongue. Moreover, the technician will have few if any tools of the trade at his disposal (multilingual, bilingual or monolingual dictionaries, international or national terminology services or word banks, personal files built up during a translator's career, links with other translators etc.). He may very well spend an unduly long time on a problem which a professional translator would be able to solve immediately. Furthermore, he may even be unaware of the difficulty — as in the case of deceptive cognates, i.e. those words in various languages which in appearance resemble words in other languages, but have a quite different meaning. For instance, "fertilité" in French means "fecundity" in English and "fécondité" in French means "fertility" in English. Other cases may also exist for example, between Malay and Ta-

galog etc. The technician may pass over a grammatical difficulty and introduce an error without being aware of it.

8. In brief, while not fully immune from misinterpretation of technical terms, the technician is particularly liable to err for want of linguistic knowledge.

II. THE TRANSLATOR IN TECHNICIAN'S CLOTHES

9. The professional translator has all the linguistics tools and background required to understand a text in the source language and the stylistical capabilities to render it into the target language. This knowledge is not highly technical. He must not produce what the French call "belles infidèles" (literally "unfaithful beauties"), i.e. translations which are stylistically excellent but which are totally or partially inaccurate. A combination of linguistic, stylistic, and technical expertise is an essential part of the translator's equipment. However, he cannot possibly beat the technician on the latter's own ground. The main reason for this is that most translators have to deal with a very wide range of subject-matter. They are unable—both in terms of time available and assimilation powers—to keep track of all new technological developments and the terms and concepts which go with them. Dictionaries are a big help but none of them are updated regularly or completely. Moreover, when a dictionary (whether it is a traditional or a computerized one) offers a variety of possible translations for a given term, it is most unlikely that more than one will be correct or appropriate in a given context. More often than not, the translator will be at a loss to select the right word. Although dictionaries which provide explanation of words, for example, the Multilingual Demographic Dictionary,[1] would facilitate the translators' task greatly, the basic problem of selecting the appropriate word remains.

III. QUALITY CONTROL: THE NEED FOR CO-OPERATION

10. The considerations which have been cited make it clear that the best solution is to ensure co-operation between translators and technicians. How can it best be done? In most cases, the translator will call upon the services of a technician to solve a specific problem. While this method has its merits and often may be the only alternative at hand, it is far from being satisfactory because there will be no comprehensive check on accuracy and no over-all quality control.

11. The need for some sort of quality control is very evident, but the question is how to check the translation without being able to read the original? This problem is particularly acute in the case of non-international languages, i.e. languages which, although spoken by millions of people, are mainly confined to their own linguistic-geographic area and are not used on a worldwide scale for reasons such as extremely difficult script or grammar. A good example is the Japanese language. Since few non-Japanese read Japanese well enough to translate from it, most translations must be produced by Japanese translating into a target language which is not their own.

12. There is also the problem of word coinage. Coming upon a new technical term in a foreign language, the technician will generally tend to adopt the foreign word by nationalizing it, while the translator will most certainly try to coin an equivalent term or expression. This is a delicate problem, for which in most cases an entirely satisfactory solution has not yet been found. Ultimately, the whole thing boils down to the question of whether the term comes into usage or not and is adopted by the general public, the media etc.

IV. A PROPOSED SYSTEM

13. One solution to the problem of quality control is the following system which has been more or less adopted by the National Translation Institute of Science and Technology (NATIST) in Japan (NATIST was officially organised in 1967 and is the Japanese chapter of the International Federation of Translators).

Stage I — The text in the SL is given to a professional translator who puts it into the TL.

Stage II — When completed, the translation goes to a technician whose mother tongue is the TL but who has a fair (the best possible) command of SL (or vice versa). This is the first quality control stage to check for accuracy, ommissions and misinterpretations.

Stage III — The translation goes to a rewriter or reviser whose mother tongue is the TL and who revises for style and readability.

1/ United Nations publication, sales No. 58.XIII.4.

Stage IV – (This stage may be optional but it is highly desirable in all instances). As a further check on accuracy the revised draft is checked once more by a SL speaker and any problems are ironed out in consultation with the rewriter. The rewriter/reviser in Stage III is likely to be unable to read the original in SL and therefore must rely on a draft translation and may inadvertently introduce an error. The translation is now typed and proofread before submission to the client.

14. Some concrete examples are offered below. Two cases may occur: (a) either SL or TL is a non-international language; (b) both SL and TL are non-international languages. The following examples should not be considered as theoretical but as practical and realistic. That is the reason why in example (a) (ii) below the three specialists are given as Thai because in practice they will be, although this is not the ideal solution. Ideally Stage II should involve a native speaker of English.

a): (i) SL is Thai and TL is English

Stage I – The translator is Thai.

Stage II – The technician is a Thai who has a fair knowledge of English or, preferably, an English person who knows Thai.

Stage III – The rewriter/reviser is a native English speaker.

(ii) SL is English and TL is Thai

Stage I – The translator is Thai.

Stage II – The technician is a Thai who knows English.

Stage III – The rewriter/reviser is Thai.

(b): (i) SL is Thai and TL is Japanese

Stage I – The translator is Japanese (or a Thai who knows Japanese)

Stage II – The technician is a Thai who knows Japanese (or vice versa – reverse from Stage I).

Stage III – The rewriter/reviser is Japanese.

(ii) SL is Hindi and TL is Tagalog

Stage I – The translator is a Filipino who knows Hindi (or vice versa).

Stage II – The technician is an Indian who knows Tagalog (or vice versa – reverse from Stage I).

Stage III – The rewriter/reviser is a Filipino.

VI. COST AND TIME REQUIREMENTS

15. It is very difficult to assess the cost of translating because it varies widely from language to language. Costing factors include the degree of difficulty of the language in question, the availability of translators and technical aids to translation and the relative wordage used by the language to express a given thought or text. The fee also depends on the degree of technicality of the text.

16. In the case of private translation bureaus or agencies, the rate will obviously be higher if the text is technical, written in a less common language etc. Translators working for translation agencies normally receive two-thirds of the fee paid by the client. Fees for translations often shock those who require them, but it should be kept in mind that a well-produced, accurate translation is the outcome of a time-consuming and demanding process which amply justifies the fee charged for it. In terms of quality and accuracy it does not pay to hire the services of a student or a person not qualified in translation, even if the fee is lower.

17. Sufficient time must be given for translations. There are too many cases in which the translator is expected to be the fastest-working link in a long production chain, compressed, as it were, between the original author, the editor and the printer. It is true that many translators can work quickly, producing up to 5,000 words a day, but working under pressure in this way is hardly conducive to good work.

18. In practice standards used by the secretariat for the French Translation Section is about 5 pages (1,500 words) a day for translators and 15 pages (4,500 words) a day for revisers. Amounts vary depending on difficulty, technicality etc.

VII. CONCLUSION

19. It should generally be accepted that as a rule, a translator has to translate into his own language in a field in which he is able to acquire some degree of expertise. Obviously, the system proposed in paragraph 13 does not appear to meet the first criterion. However, this criterion becomes unrealistic in the case of translations from and/or into a non-international language and in view of the quality of

qualified translators. It is recognised that translation is costly and it is suggested that the most workable alternative to achieve the target objectives according to sound practice is input by three specialists, two of whom are bilingual. In summary this input is as follows:

(a) A translator (whether TL is his mother tongue or not)

(b) A technician (whose mother tongue is preferably SL or who has a good knowledge of SL)

(c) A reviser (native speaker of TL, preferably with a technical background).

A CASE STUDY: THE INTERNATIONAL DEMOGRAPHIC TERMINOLOGY OF IUSSP*

* Document POP/TPM/BP.3. This paper was prepared by Paul Paillat, National Institute for Population Studies (INED), France. The views expressed in this paper are the author's own and do not necessarily reflect those of the Committee he chairs, IUSSP under the aegis of which the work is conducted, or INED to which he belongs. This statement is necessary because the Terminology Committee members were rarely unanimous and even expressed deeply divergent views on some points.

INTRODUCTION

1. Of all the social sciences, demography is the only one with its own vocabulary, meaning a large set of concepts, the definition of which is known by every demographer and generally respected. The Multilingual Demographic Dictionary 1/ offered a remarkable picture of this situation in 1953. The dissemination of demography around the world was much fostered by this dictionary which contributed towards solving translation problems and remains a noted reference book.

2. As time passed, the discipline improved. New methodological concepts were developed and processing tools became sophisticated. Thus, it appeared necessary to compile a dictionary whose content better reflected current demography. This need will be met in 1976.

3. In the following text, the United Nations Dictionary and the standardized terminology (sometimes called the IUSSP dictionary) will be compared. Problems encountered when preparing the terminology will be set out as clearly as possible because other working teams may profit from this experience. Finally, comments will be made in order to initiate relevant discussions by this Expert Group.

I. THE UNITED NATIONS DICTIONARY AND THE IUSSP TERMINOLOGY: A COMPARISON

A. THE UNITED NATIONS DICTIONARY

4. At its fourth session, the United Nations Population Commission requested the Secretary-General to include the preparation of a multilingual demographic dictionary in the Secretariat's work programme. Several months later, the International Union for the Scientific Study of Population (IUSSP) offered to collaborate with the United Nations in this project and set up a sub-committee to prepare a plan of work. At the fifth session of the Population Commission, the Secretary-General was asked to accept the IUSSP offer. IUSSP set up a Dictionary Committee which was given the task of drafting versions of the dictionary in English, French and Spanish.

5. The first draft consisted of a basic French text (the author being Mr. P. Vincent, Committee Chairman and "father" of the adopted format), which was translated into English and Spanish. A provisional edition of this draft, dated June 1954 and published by the United Nations, was distributed to the participants at the First World Population Conference held at Rome in 1954.

6. The dissemination of the provisional edition allowed a number of experts to comment critically on the draft. The Committee took into account the comments received and a final edition of the English and French volumes of the **Multilingual Demographic Dictionary** was published by the United Nations in 1958. Since then, the dictionary has been published in the following languages: Spanish (United Nations, 1959), Italian (1959), German (1960), Finnish (1962), Russian (United Nations, 1964), Czech (1965), Polish (1966), Swedish (1969), Portugues (1969) and Serbo-Croatian (1971). A volume is available in Arabic and a draft version in Hebrew. There are also projects in Hungarian, Persian and Turkish, but their stage of development is not well-known. A Japanese draft was apparently put in cold storage.

2. ADOPTED PRINCIPLES GOVERNING THE UNITED NATIONS DICTIONARY

7. Each volume is unilingual: a system of digital references (see below) forms the bridge between two volumes. This point is basic: no dictionary was published with the IUSSP label without respecting this principle which however allows for some stylistic freedom imposed by linguistic characteristics 2/

8. Demography was divided into nine chapters of various length:

Chapter	Paragraphs
1. General concepts	38
2. The treatment and processing of population statistics	15
3. Distribution and classification of the population	43
4. Mortality and morbidity	20
5. Nuptiality (including divorce)	17
6. Fertility (including abortion, contraception and family planning)	24
7. Population growth and replacement	8
8. Migration	12
9. Economic and social aspects of demography	16

A very detailed index offers some 3,000 terms and references.

1/ United Nations publication, Sales No. 58.XIII.4.

2/ In fact, it is not correct to speak of translations. Each volume includes developments in local usages of the linguistic area concerned.

9. Each chapter and even each paragraph consists of drafted texts starting from the more generic term and going on to the more specific term.

10. Each concept is identified by a 4-digit number: the first three point to the paragraph concerned (the first of these being that of the chapter) and the fourth shows the location within the paragraph. For instance "Abridged life tables" is numbered 435.2, because 4 = Mortality, 435 = life tables, paragraph, 435.1 being "Complete life table", while "Parity-specific fertility rate" is numbered 636.2, because 6 = Fertility, 636 = birth order, 636.1 being the more generic term "Birth order rate". Synonymous terms bear the same identification number.

11. The restrictions imposed by such a system are obvious, but each concept or phrase is shown within a context which provides explanation and location. Passing from one language to another is made easier; it is in agreement with the preparation of a thesaurus of demography [3/] . These points are discussed below and use is made of the phrase "integrated text" mentioned by the Population Commission.

B. THE IUSSP STANDARDIZED TERMINOLOGY

1. Historical background

12. At its fifteenth session, held at Geneva in November 1969, the Population Commission recommended that the Secretary-General of the United Nations continue to co-operate closely with IUSSP in projects of mutual interest, such as the preparation of a **standardized demographic terminology** which would be internationally accepted and which would be published in the major languages of the world.

13. In April 1969, the Council of IUSSP decided that, although the **Multilingual Demographic Dictionary** had been extremely useful, it was becoming increasingly out-of-date and that it was time to prepare a new dictionary. In September 1969, its General Assembly took note of the resignation of Mr. P. Vincent as the Chairman of the Dictionary Committee and decided to replace this committee by a **Committee on International Demographic Terminology,** theoretically ready to implement United Nations recommendations and to be the successor to the preceding committee. Lack of financial resources precluded any action at that time.

3/ A thesaurus is a list of concepts in hierarchical order, which plays the role of a key to a documentation system, automated or not.

2. Appointment of committee members and terms of reference of the committee

14. According to a contract made in March 1972 between the United States Bureau of the Census and IUSSP, the latter's first and main task is to prepare a new demographic dictionary which will initially be published simultaneously in four languages (English, French, Spanish and Russian). The possibility of an edition in Chinese will also be considered at a later stage. The project aims to standardize the terminology in the various languages so that each term is given the same definition in all languages. The anarchic development of demograph makes international comparison more and more difficult and thus standardization is becoming a pressing need. The new dictionary will be of major assistance in the teaching of demography and a useful tool in developing countries of the world. The last point explains the contribution by the United States Agency for International Development to the project through the United States Bureau of the Census.

15. The IUSSP Council, as contractor, appointed the members of the committee according to three criteria: a command of demography, a good knowledge of at least two working languages and a residence not too remote in order to curtail travel expenses. The following individuals were selected:

Responsible for English : Mr. E. Grebenik (United Kingdom), then Secretary General of IUSSP; co-editor in chief of "Population Studies"; author of the English section of the United Nations dictionary; Principal, Civil Service College;

Responsible for Spanish : Mr. J. Nadal (Spain), Professor at the Faculty of Economics (University of Barcelona); expert in historical demography;

Responsible for French : Mr. P. Paillat (France), Head, Department of Social Demography at INED; Associate Professor in Demography at Paris University VIII;

Responsible for Russian : Mr. A. Boyarskyi (Soviet Union), Director of the Central Statistical Office of the USSR Council of Ministers; author of a handbook on demography;

Plus : Mr. K. Mayer (Switzerland), Professor of Sociology at Berne University and formerly at Brown University, New Providence, United States;

Mr. S. Kono (Japan) Chief, Estimations and Projections Section, United Nations Population Division (acting as a liaison officer with the United Nations)

Other participants in the Committee's work are:

Mr. J. Siegel (United States), from the Bureau of the Census; co-author of a handbook "Methods and Materials of Demography" 4/

Mr. M. Lebrun (Belgium), a demographer, liaison officer with IUSSP;

Mrs. A. Hill (United Kingdom), Mr. A. Saez (Spain), Miss A. Lifshitz (France), graduate demographers, assistants to Mr. Grebenik, Mr. Nadal and Mr. Paillat.

Apart from a meeting between Mr Boyarskyi and Mr Paillat, the Soviet team's contribution to the work was made only by mail, for various reasons. The Committee, chaired by Mr. Paillat, was requested to adhere to a time-table, divided into phases.

3. Time-table of the committee

16. The time-table comprised:

Phase 1 : Preparation for the first meeting by the Chairman (list of themes);

Phase 2 : First meeting (Paris, May 1972) : agreement on the list, choice of priorities, adoption of a uniform presentation, division of work;

Phase 3 : Recruitment of assistants in order to draw up the list of terms by section and circulate these lists for comments in each linguistic area; gathering of existing definitions, preparation of new ones and, after comments by mail, first draft;

Phase 4 : Second meeting (Paris, May 1973): review of drafts in one language and sometimes translated;

Phase 5 : As Phase 3 for four new categories; translation of texts adopted in phase 4;

Phase 6 : As Phase 4, plus check-up of translations corresponding to Phase 5 (meeting at Sunningdale, United Kingdom, October 1973)

Phase 7 : As Phase 5

Phase 8 : As Phase 6 (meeting at Barcelona, October 1974)

Phases 9-12 : The original timetable had to be extensively altered.

17. The committee held its last meeting at Liege, Belgium, in May 1975 : it adopted the remaining categories, organized the series of world-wide consultation (formerly phase 9), and appointed an editing board (Mr. Grebenik, Mr. Nadal and Mr. Paillat) to take into account results from the consultation.

18. Meanwhile, as is the rule for its publications, the IUSSP Council submitted the provisional text for critical comments before publication to three institutions (United States Bureau of the Census, the Latin American Demographic Centre (CELADE) and INED).

19. After the board's decisions, the text should be finalized in the spring of 1976 and the publication, in English, French and Spanish, under the aegis of IUSSP, is scheduled for the end of 1976.

20. Some additional information is worth noting. Each member of IUSSP received the English text of the section on "Fertility and nuptiality" in pamphlet form but the committee received almost no comments. Step-by-step, translation was dropped for financial reasons because any amendment of the original text led to an alteration of the corresponding translations. From the initial preparation to the editing phase, the work was spread over four years (July 1972 - July 1976): in spite of extensive modification of the time-table, the first complete set of texts in English and in French was handed to the United States Bureau of the Census in September 1975. The use of the time yet available will depend much on the rapidity with which answers are received from institutions and persons consulted, as well as on the volume of these comments and amendments.

II. THE PREPARATION OF THE TERMINOLOGY

A. Initially adopted principles

21. At its first meeting, the committee decided to give priority to the first objective, 5/ i.e. the standardization of terms and symbols used in demography. The need to include new terms which would

4/ With the occasional participation of Mr. S. Baum, also of the United States Bureau of Census.

5/ The other objectives were preparation of a new demographic dictionary and preparation of a dictionary which could also serve as an introduction to the study of demography.

help update the science of demography in the light of recent progress made in its methods and techniques was also stressed. The decision regarding the final format of the future dictionary was to be made later following consulation with various demographic centres.

22. The committee adopted the following list of categories for working purposes:

A. General concepts (including the tools of demography);

B. Demographic phenomena: 1. Fertility (including family planning); 2. Mortality-morbidity; 3. Reproduction and population growth; 4. Migration; 5. Nuptiality and termination of unions.

C. Structure and geographical distribution of population: 1. Structure by age, sex and marital status; 2. Genetic and biometric characteristics; 3. Ethnic characteristics; 4. Families and households; 5. Spatial distribution of population and urbanization.

D. Collection of demographic data and data processing: 1. Censuses; 2. Vital statistics; 3. Population registers; 4. Sample surveys; 5. Computer processing of data.

E. Demographic theories, policies and programmes: 1. Theories; 2. Policies; 3. Programmes; 4. Evaluation of demographic influence on policies and programmes.

G.[6/] Historical demography.

H. Social and economic characteristics of population.

I. Relationships between demographic and socio-economic factors. Subsequent modifications of this list will be mentioned later.

1. Methodology to be used in the research for a standardized definition of each term

23. It was decided that:

(a) Each research team would be responsible for preparing in its language a complete list of terms included in the category concerned and for selecting definitions commonly found in demographic literature or made by the team itself when necessary. Such research should start from the United Nations Dictionary, take into account national and international yearbooks (including foot-notes of statistical tables) and make reference to publications of the United Nations and its specialized agencies (e.g. principles and recommendations on censuses, vital statistics etc., as well as standard international classifications);

(b) Definitions already accepted as standardized should be presented as such;

(c) All bibliographical references to standardized definitions should be precisely indicated;

(d) Translations should be made into the native language of the translator under the supervision of a committee member;

(e) In his capacity as the IUSSP Secretary General, Mr. Grebenik was to request the co-operation in the committee's work of all directors of central statistical offices and other organizations concerned.

2. Priorities

24. In view of the approaching World Fertility Survey, the committee gave first priority to the lists concerning fertility. Mortality-morbidity and reproduction/ population growth were also selected.

B. Subsequently adopted principles

25. Helped by its own experience, the committee had to modify its initial approach and complete initial instructions.

1. Format of the dictionary

26. After long discussions between members and after taking into account comments from some demographic centres (ESCAP, CELADE, Accra), the committee decided unanimously (at least for a while) that: (a) the dictionary would be divided into major chapters, each chapter covering an important topic in demography; (b) within those chapters, terms and symbols should be defined in detail and listed alphabetically; a cross-references system would be used in order to avoid as much repetition of definition as possible; (c) an alphabetical index would be included at the end of the volume which would allow the reader to find the corresponding term in the three other languages; a double index system could be used whereby there would be an alphabetical listing of all terms as well as a thematic listing of key words; (d) a diagram of demographic symbols and formulae would be included; (e) the

6/ 'F' was omitted.

Committee would determine at a later date whether to publish one quadrilingual volume or four unilingual volumes.

2. Definitions to be included

24. These were:

(a) Definitions recommended by international organizations (with precise bibliographic references or annotations);

(b) Definitions formulated by the committee which it proposed for standardization;

(c) Generally agreed upon and frequently used definitions which did not need to be standardized.

28. The committee should aim at improving and updating demographic terminology, bearing in mind satisfactory definitions included in the United Nations **Dictionary**. Demographic terms having significant regional and national usages and liable to cause confusion in interpretation should be mentioned.

29. The dictionary would also attempt to standardize symbols used in demography, not only considering the initial letter. For the sake of clarification, examples could be offered after definitions.

3. Supplementary information

30. After the third meeting (October 1973), it was felt necessary that the three English, French and Spanish assistants meet on their own in order to make their preparation work more uniform. In April 1974, they adopted the following rules of presentation which they submitted to the Committee's members:

(a) Foot-notes should be used when necessary for practical comments, specific uses, local usages etc.;

(b) Standardization of the same type of definitions (e.g. types of growth, types of tables, use of formulae);

(c) Adoption of the concept "persons-years" instead of "average population" (or "mid-year population") with reference to chapter I for explanations;

(d) Bibliographical references should be located in foot-notes; terms defined elsewhere should be underlined and be indicated by an asterisk

(e) Elaboration of detailed listings; synonymous terms would refer to the same definition (a first step toward the final index);

(f) In order to avoid repetitions, the definitions of very general concepts (crude rates, longitudinal tables etc.) would be grouped in chapter I;

(g) Formulae would be used only when literary explanations proved to be too long or too complicated.

31. These rules were not observed on various occasions, but they will play a valuable role in the editing of the final text.

C. Problems faced by the committee

32. As already indicated by some comments, principles and implementation often diverged. Several problems which the committee had to face are discussed below.

1. Format of the dictionary

33. In spite of the unanimity expressed at the second meeting, the format of the dictionary became an issue that was raised at each subsequent meeting by one member, a stubborn advocate of purely alphabetical listing. The chairman was than compelled to ask the IUSSP Council for at least a temporary decision on this point pending the results from the consultations of autumn 1975.

34. Three presentations are possible:

(a) A purely alphabetical presentation, without any grouping, as for any usual dictionary:

Positive factors: simplicity; easy search for any single definition;

Negative factors: difficult and lengthy search for a group of definitions; no identification numbers of definitions; many repetitions making the volume thicker (however, possible shortening of the index).

(b) Mixed presentation: division in major themes, alphabetical listing of definitions within each "chapter" with some groupings (type adopted for working purposes by the committee):

Positive factors: definitions concerning the same theme are contiguous; the text is somewhat lighter; a detailed index allows easy search for the proper place;

Negative factors: contiguity is not as useful as inclusion in a context; a hierarchization of concepts remains difficult.

(c) A so-called integrated presentation, as in the United Nations **Dictionary:**

Positive factors: definitions are presented in a context which helps to clarify them; classification and numbering are easy;

Negative factors: very constraining system; final draft will be a long and arduous task; divisions are difficult and controversial.

35. In fact, the choice is governed by the expected use of the dictionary. When a researcher wants to check the proper written definition of a term or concept, he is helped by an alphabetical listing; a translator or a student, however, has to understand what it is all about and is helped by the context (integrated system or, at least, the mixed one).

36. It should be noted that, at its eighteenth session, the Population Commission "felt that, at a later stage (after publication of the IUSSP dictionary) serious consideration should be given to the preparation and publication of an integrated text". This wish corresponds to requests presented by demographic centres or services, including ESCAP. Of course, an integrated dictionary would differ somewhat from the United Nations **Dictionary** because of the need for emphasizing standardized definition, perhaps by particular types.

37. The committee will pay great attention to the comments on that delicate point which come from institutions and individuals consulted. The discussion is open.

2. Substantive problems

38. In order to reach its main objective, standardization, the committee took some daring stands. For instance it constantly applied the same rule concerning the use of the term "rate" and it is recommending other words when, in its opinion, current usage is not correct (e.g. "participation rate" should be called "participation or ratio" because it is not a frequency).

39. Many colleagues as well as institutions will pretest vigorously, basing their claim on the strength of inherited usage. By following such a trend of thought, progress would be made impossible. It should be possible, however, to study a gradual step to the new usage, e.g. by mentioning in foot-notes to statistical tables what term should be used and the corresponding definition.

40. The problem of borders is also a thorny one. How many terms taken from connected disciplines (sociology, economics, geography, history etc.) or ancillary disciplines (statistics, mathematics, information etc.) should be included and on which basis? The size of the section on genetics, for instance, was a matter of heated dispute between extreme stands. Sometimes, on pragmatical grounds, the answer is easy: "mean age" should be defined, but not "mean" as such (or "average"), but what about the wide range of family control implements? A frequently used term may not need a definition or, conversely, should be defined in order to adopt a common language . Or course, among various meanings for the same term, preference should be given to the one more closely linked with demographic usage and needs.

3. Drafting and translating problems

41. In spite of their constant attention, drafting members of the committee did not always respect the adopted rules mentioned above, partly because their own temperament and their cultural background hindered them from keeping their work on a systematic path. This situation will be partly corrected during the editing phase, but, as a whole, the dictionary will suffer from some heterogeneity, an unavoidable result of any collective job; a complete rewriting would be necessary to rid it of this weakness.

42. Differences due to each language reinforced this heterogeneity. For instance, a text written in English, then translated into French, will keep a reminder of its origin unless the translator is authorized to write a free adaptation of the original text. It is even more difficult when it is a second-step translation: to write in Spanish from an English translation of a Russian text is undoubtedly not an easy job.

43. Anyway, a trustworthy adaptation can only be done by a translator who has a good command of demography and whose work is subsequently checked by a professional demographer.

44. In some cases, the committee was worried by the phrasing, original or translated, of official texts ("standards") which may have been collectively written after meetings of expert groups. Some stylistic improvements were made, but they were differen-

tiated (e.g. with square brackets) in order to keep the quotation authentic, the main point being respect for the substance itself.

4. Cost of the operation

45. A budget of $US195,500 was provided in order to cover:

Salaries to assistants (42 months) on a half-time basis, together with secretarial and clerical salaries (42 months) on a third-time basis	$67,000
Consultation and translation fees	$ 22,000
Travel expenses and per diems	$ 31,000
Supplies and communications	$ 25,500
Overhead expenses (33 per cent)	$ 50,000

46. The actual cost is higher since institutions concerned paid the salaries of members of the committee directly for the time spent on this work, as well as various current expenses (mail and reproduction). The availability of large library stocks made it unnecessary to buy documentation material. Moreover, the cost of publication is not included in the budget.

4. Categories and authors of first drafts, before collective review

47. These were: A. Nadal-Saez; B. 1. Grebenik-Hill; 2. Paillat-Lifshitz; 3. Nadal-Saez; 4. Nadal-Saez; 5. Grebenik-Hill; C. 1. Paillat-Lifshitz; 2. Paillat-Lifshitz; 3. Paillat-Lifshitz; 4. Boyarskyi; 5. Boyarskyi. D. 1. Grebenik-Hill; 2. Grebenik-Hill; 3. Grebenik-Hill; 4. Grebenik-Hill; 5. Kono; E.1 and 2. Nadal-Saez; 3 and 4 deleted; G. Nadal-Saez; H. Nadal-Saez; I. deleted (see para. 22 for code).

5. Length of the terminology

48. In its present form, the terminology is spread over some 1,100 concepts or references, but this number will be somewhat enlarged when the final index is being built up.

PROBLEMS OF TRANSLATION INTO OTHER LANGUAGES

49. To translate from one of the four initial languages of the IUSSP terminology into any other European language will not raise any major difficulties. That was the case for the United Nations Dictionary. However, it is necessary to point out that variants in use and form exist within the main communication languages.

50. The main issue is the absence of a corresponding term, either because the term to translate reflects a culture-specific fact, or because demography has not reached the same degree of development. When languages belong to the same family, it is often possible to coin a neologism easily understood by anyone who knows the roots used. The committee of the dictionary (the former one) was strongly opposed to incorporating foreign words, even in the case of terms already frequently used. It might be necessary to adopt a more flexible position regarding this type of solution when there is no other way out.

51. Translators might face their main problem when they work from, say, English (the most commonly known European language in the Southeast Asia and Pacific region) into a local language, especially when the latter is structurally completely different and when demographic concepts are not yet as diverse as in English.

52. The case of non-alphabetical languages seems to present an obstacle to the use of pure or mixed alphabetical listings because of the lack of correspondences. One quarter of mankind writes or reads ideograms. In this respect, the long experience of Japanese demographers is likely to be very valuable.

53. Whenever possible, it would be proper to refer to available literature, including translations of technical reports, without barring the possibility of amending such texts which are not necessarily written for dictionary and standardization purposes.

54. Beyond formal problems, the target should be a consensus regarding the meaning of definitions. Converging cases are more numerous than diverging ones, after false synonyms and rough equivalents have been brushed away.

CONCLUSION

55. As of October 1975, the IUSSP dictionary is still provisional and therefore cannot be circulated or used for any purpose other than making comments and suggesting amendments to it. We would have greatly reduce the time-lag between completing our job and having it translated into other languages by handing over, chapter by chapter, the results of our collective enterprise, even if by doing so it was likely that substantial modifications would appear

necessary after the 1975 round of consultations. However, it was decided to wait until the final text was ready. My own stand on this point does not matter. I am only worried by the difficulties of working fast enough in 1976 and 1977 in order to compensate for the loss of time. Steps can be taken in this direction, but, for the sake of quality, the co-operation of language experts seems to be essential.

MACHINE TRANSLATION, PAST, PRESENT AND FUTURE*

* Document POP/TPM/BP.4. The paper was prepared by Loh Shiu-Chang, Chinese University of Hong Kong. The paper is a direct translation in English by computer of a paper originally written in Chinese. The English translation is reproduced here, without any alterations, from the computer print-out. The opinion expressed are those of the author, and do not necessarily represent the views of the United Nations.

THE NEED FOR MACHINE TRANSLATION

THE RATE AT WHICH MAN HAS CONTINUOUSLY BEEN ACCUMULATING USEFUL KNOWLEDGE ABOUT HIMSELF AND THE ENVIRONMENT HAS ACCELERATED GREATLY, PARTICULARLY DURING THE LAST 100 YEARS. THERE ARE MANY REASONS FOR THIS INCREASE: THERE ARE MORE SCIENTISTS TO-DAY THAN EVER BEFORE, SCIENTIFIC RESEARCH IS RECEIVING SUBSTANTIAL GRANTS AND FINANCIAL SUPPORT FROM GOVERNMENT AND INDUSTRY, THE COLD WAR HAS RESULTED IN A COMPETITIVE ATMOSPHERE IN WHICH NATIONS ARE ENDEAVOURING FOR MILITARY AND TECHNOLOGICAL SUPREMACY, ETC.

BY THE MOST CONSERVATIVE ESTIMATES, EUROPE WAS PUBLISHING 1000 NEW BOOKS PER YEAR BEFORE 1500. BY 1950, FOUR AND A HALF CENTURIES LATER, THE RATE HAS ACCELERATED SO SHARPLY THAT EUROPE WAS PUBLISHING 120,000 NEW BOOKS PER YEAR. BY THE MID-SEVENTIES, THE PUBLICATION OF BOOKS ON A WORLD SCALE, EUROPE INCLUDED, REACHED THE FIGURE OF APPROXIMATELY 1,500 NEW BOOKS PER DAY.

THERE ARE MORE SCIENTIFIC SOCIETIES IN EXISTENCE TODAY THAN EVER BEFORE, AND THESE SOCIETIES ARE HOLDING MORE MEETINGS, CONVENTIONS AND SEMINARS, AND PUBLISH MORE JOURNALS AND PROCEEDINGS THAN EVER BEFORE. THE FIRST TWO SCIENTIFIC JOURNALS APPEARED 300 YEARS AGO. IN 1958, THE NUMBER OF RESPONSIBLE TECHNICAL JOURNALS APPROACHED 100,000: THERE ARE NOW FOUR MILLION JOURNAL ARTICLES, 120,000 TECHNICAL BOOKS AND 100,000 TECHNICAL REPORTS BEING PUBLISHED ANNUALLY. ON A WORLDWIDE BASIS APPROXIMATELY 60,000,000 PAGES EVERY YEARS. AND THIS RATE OF PUBLICATIONS IS INCREASING EVERY YEAR. TO-DAY, FOR EXAMPLE, THE NUMBER OF SCIENTIFIC AND TECHNOLOGICAL JOURNALS AND ARTICLES IS DOUBLING, LIKE INDUSTRIAL PRODUCTION IN THE INDUSTRIALISED COUNTRIES, ABOUT EVERY FIFTEEN YEARS.

HOWEVER, WE CAN ARGUE THAT EVERY BOOK IS A GAIN FOR THE ADVANCEMENT OF KNOWLEDGE. NEVERTHELESS, IT IS TRUE THAT THE ACCELERATION RATE OF BOOK PUBLICATION IS, IN FACT, PARALLEL TO THE RATE AT WHICH MAN DISCOVERS NEW KNOWLEDGE.

THE RESULT OF ALL THESE PUBLICATION ACTIVITIES IS THAT THE INDIVIDUAL SCIENTIST IS STRUGGLING IN AN OCEAN OF INFORMATION AND IS ENDEAVOURING TO SEEK THE INFORMATION HE NEEDS. FURTHERMORE, ALL JOURNALS AND BOOKS ARE PUBLISHED IN DIFFERENT NATIONAL LANGUAGES, BECAUSE NO ONE COUNTRY CAN MONOPOLIZE THE DEVELOPMENT OF SCIENCE AND TECHNOLOGY. THEN, HOW CAN THE SCIENTIST OF ONE COUNTRY BE FAMILIAR WITH THE SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENTS AND RESEARCH FINDINGS TAKING PLACE IN OTHER COUNTRIES? SHOULD WE INSIST THAT THE SCIENTIST BE ABLE TO READ ONE, TWO, OR MORE FOREIGN LANGUAGES, SO HE CAN READ THE CURRENT LITERATURE RELATING TO HIS OWN FIELD, TO SEARCH THE LITERATURE ACCUMULATED IN THE PAST, AND TO BE MADE AWARE OF WORK RELATED TO HIS FIELD SO THAT HE CAN PROCEED CONFIDENTLY IN HIS WORK TO AVOID UNINTENTIONAL DUPLICATION.

THE SO-CALLED "INFORMATION EXPLOSION" HAS ARRIVED. SUITABLE WAYS MUST BE ESTABLISHED TO ASSIST THE SCIENTIST AND RESEARCH WORKER TO READ CURRENT LITERATURE IN THE FIELD RELATING TO

HIS WORK, TO SHARE KNOWLEDGE AMONG PEOPLE AND AMONG NATIONS. I BELIEVE THAT MACHINE TRANSLATION OFFERS THE ONLY REALISTIC SOLUTION TO THE PROBLEM WE ARE FACING. A GREAT DEAL OF TIME AND RESOURCES COULD BE SAVED IF DUPLICATION OF RESEARCH EFFORT WERE TO BE ELIMINATED, OR AT LEAST REDUCED TO A MINIMUM BY MUTUAL REPORTING OF PROGRESS AND EXCHANGING IDEAS. THE WORK OF SCIENTISTS SPEAKING DIFFERENT LANGUAGES CAN BE ACCELERATED BY LEARNING WHAT SCIENTISTS IN OTHER COUNTRIES ARE DOING, THEIR ACHIEVEMENTS AND FAILURES, AND THEY CAN PLAN A BETTER COURSE OF ACTION TO SOLVE THEIR OWN PROBLEMS. THE ONLY MEANS BY WHICH THESE SCIENTIST CAN COMMUNICATE WITH EACH OTHER IS BY PUBLISHING PAPERS OUTLINING THE METHOD USED AND THE RESULTS OBTAINED, AND THESE PAPERS HAVE TO BE TRANSLATED BEFORE THEY BECOME UNDERSTANDABLE TO THE OTHER SCIENTISTS. AUTOMATIC TRANSLATION IS DEFINITELY NEEDED SINCE HUMAN TRANSLATORS CANNOT POSSIBLY HANDLE THE VOLUME OF WORK OR EVEN HOPE TO ACQUIRE THE SPECIAL VOCABULARY TO MAKE GOOD TRANSLATIONS IN A WIDE RANGE OF TECHNICAL SUBJECTS.

AUTOMATIC TRANSLATION CAN NOT BE PERFECT. WHETHER IT COULD EVEN BE HIGH QUALITY OR NOT IS DEPENDENT ON HOW HIGH THE STANDARDS ARE SET. THE IMMEDIATE GOAL IS NOT TO DESIGN A PERFECT AUTOMATIC TRANSLATION SYSTEM OR TO ACHIEVE HIGH QUALITY MACHINE TRANSLATION, BUT TO DESIGN A MACHINE TRANSLATION SYSTEM THAT IS BETTER AND MORE EFFICIENT THAN THE ONES WE HAVE TO-DAY.

PAST

THE SUGGESTION THAT MODERN COMPUTING MACHINES COULD BE USED FOR TRANSLATION ORIGINATED FROM A.D. BOOTH. IN 1946, VARIOUS NEW USES FOR AUTOMATIC DIGITAL COMPUTERS WERE BEING CONSIDERED. THESE APPLICATIONS RANGED FROM THE MORE OBVIOUS APPLICATIONS TO PROBLEMS IN MATHEMATICS AND PHYSICS, TO PHILOSOPHICAL PROBLEMS SUCH AS MECHANIZATION OF HUMAN THOUGHT PROCESSES, THE PLAYING OF GAMES AND THE TRANSLATION OF LANGUAGE. AT THIS EARLY STAGE OF AUTOMATIC TRANSLATION, MOST OF THE RESEARCH WORK DONE IN AMERICA WAS FOCUSED ON GERMAN INTO ENGLISH, WHILE IN RUSSIA THEY FOCUSED ON GERMAN INTO RUSSIAN. THIS WAS PROBABLY BECAUSE GERMANY HAD DEVELOPED VERY ADVANCED TECHNOLOGY DURING WORLD WAR II. HOWEVER, ATTENTION WAS SOON DIRECTED TOWARDS RUSSIAN-ENGLISH TRANSLATION IN AMERICA. WITH REGARDS TO THE AUTOMATIC TRANSLATION OF CHINESE, RUSSIA HAD SPENT A LOT OF TIME AND RESOURCES IN THIS RESPECT BEFORE THE AMERICAN REALIZED ITS IMPORTANCE.

GENERALLY SPEAKING, MACHINE TRANSLATION HAS PASSED THROUGH THREE PHASES OF DEVELOPMENT. THE FIRST, OR HEURISTIC PERIOD, BEGAN WITH BOOTH'S SUGGESTION IN 1946. DURING THIS PERIOD, BOOTH AND RICHENS PERFORMED EXPERIMENTS ON MICRO-GLOSSARY DESIGN WHILST OTHER RESEARCH GROUPS STUDIED MACHINE PRODUCED GRAMMATICAL RULES TO ASSIST IN TRANSLATION.

THE SECOND PERIOD STARTED AROUND 1950 WHEN ERWING REIFLER (WASHINGTON UNIVERSITY) SUGGESTED A LINGUISTIC ANALYSIS AND PROPOSED SOME TRANSLATION PROCEDURES. SUGGESTIONS ON THE USE OF PRE-EDITORS AND POST-EDITORS AND A LOT OF LINGUISTIC TRICKS TO HELP IN SOLVING MACHINE TRANSLATION PROBLEMS WERE PROPOSED. WITH SUBSTANTIAL GOVERNMENT SUPPORT, THE AMERICAN SCIENTISTS

MADE PROGRESS ON A NUMBER OF FRONTS SIMULTANEOUSLY. HOWEVER, THE END OF THE SECOND PERIOD WAS A TIME OF GREAT DISAPPOINTMENT. THERE WERE A LOT OF UNSOLVED PROBLEMS WHICH SEEMED UNLIKELY TO BE SOLVED. MANY GAVE UP HOPE OF ACHIEVING ANYTHING CLOSE TO A PERFECT TRANSLATION AND DIRECTED THEIR EFFORTS TO MACHINE-AIDED TRANSLATION.

IN THE THIRD PERIOD, FROM EARLY 1960's TO 1966, SOME LIMITED PROGRESS WAS MADE AND THE IMPORTANCE OF LINGUISTIC RESEARCH WAS REALISED. MORE EFFORT WAS DIRECTED TOWARDS RESEARCH INTO SYNTAX AND SEMANTICS IN ORDER TO ESTABLISH MORE PRECISE GRAMMATICAL RULES.

IN 1967, THE AUTOMATIC LANGUAGE PROCESSING ADVISORY COMMITTEE AT THE REQUEST OF DR. HARWORTH, DIRECTOR OF THE NATIONAL SCIENCE FOUNDATION, ANNOUNCED ITS FAMOUS REPORT RECOMMENDING THAT RESEARCH SUPPORT SHOULD BE GIVEN FOR COMPUTATIONAL LINGUISTICS, BUT NOT FOR MACHINE TRANSLATION WHICH, IN THEIR VIEW, WOULD HAVE NO POSSIBILITY OF TANGIBLE SUCCESS IN THE NEAR FUTURE. ALL RESEARCH IN MACHINE TRANSLATION WAS THUS TERMINATED.

PRESENT

THE MACHINE TRANSLATION RESEARCH AT THE CHINESE UNIVERSITY OF HONG KONG BEGAN IN 1969. WE CAREFULLY STUDIED AND REVIEWED RESEARCH REPORTS CONCERNING MACHINE TRANSLATION. THE ACCOMPLISHMENTS AND FAILURES OF PREVIOUS WORKS WERE EXAMINED. A NEW APPROACH TO AUTOMATIC TRANSLATION OF LANGUAGE BY COMPUTER WAS PLANNED.

WE RECOGNISED AT THE OUTSET THAT FULLY AUTOMATIC HIGH QUALITY TRANSLATION (FAHQT) IS NOT FEASIBLE. A GREAT DEAL OF RESEARCH WORK, BOTH IN THEORETICAL LINGUISTICS AND COMPUTER PROGRAMMING HAS TO BE DEVELOPED BEFORE THE PROBLEMS OF SPEED, ACCURACY, READABILITY, QUALITY AND ECONOMIC FACTORS OF AUTOMATIC TRANSLATION CAN BE SOLVED. ACCORDING TO BAR-HILLEL, "HIGH QUALITY HAS TO BE RELATIONIZED WITH REGARD TO USERS AND SITUATIONS. THOSE WHO ARE INTERESTED IN MACHINE TRANSLATION PRIMARILY AS PRACTICAL DEVICE MUST REALISE THAT FULL AUTOMATION OF TRANSLATION PROCESSES IS INCOMPATIBLE WITH HIGH QUALITY. THERE ARE TWO POSSIBLE DIRECTIONS IN WHICH A COMPROMISE COULD BE REACHED: ONE COULD SACRIFICE QUALITY OR ONE COULD REDUCE THE SELF-SUFFICIENCY OF THE MACHINE OUTPUT." FAHQT MUST THEREFORE BE SACRIFICED FOR THE TIME BEING, AND EFFORT SHOULD BE FOCUSED MORE ON A MACHINE-MAN PARTNERSHIP FOR TRANSLATION.

RESEARCH INTO MACHINE TRANSLATION AT THE CHINESE UNIVERSITY TAKES A DIFFERENT APPROACH THAN THE OTHERS IN THAT THE CHINESE UNIVERSITY OF HONG KONG PLACES A HEAVY EMPHASIS ON PRE-EDITING THE SOURCE TEXT INSTEAD OF POST-EDITING THE TARGET TEXT. IT IS THE ONLY GROUP TAKING THIS APPROACH OF COMPUTER-PRE-EDITOR PARTNERSHIP. ALL THE OTHER GROUPS, WHO REALISED THE FAHQT IS NOT REALLY ATTAINABLE IN THE NEAR FUTURE AND SO A LESS AMBITIOUS AIM IS DEFINITELY INDICATED, HAD ADOPTED A TENDENCY TO COMPROMISE IN FINDING SOME COMPUTER-POST-EDITOR PARTNERSHIP.

ACCORDING TO BAR-HILLE AGAIN, "THE ONLY REASONABLE AIM, THEN, FOR SHORT-TERM RESEARCH INTO MI SEEMS TO BE THAT OF

FINDING SOME MACHINE-POST-EDITOR PARTNERSHIP THAT WOULD BE COMMERCIALLY VIABLE WITH EXISTING HUMAN TRANSLATION AND THEN TO TRY TO IMPROVE THE COMMERCIAL EFFECTIVENESS OF THIS PARTNERSHIP BY IMPROVING THE PROGRAMMING IN ORDER TO DELEGATE TO THE COMPUTER MORE AND MORE OPERATIONS IN THE TOTAL TRANSLATION PROCESS WHICH IT CAN PERFORM MORE EFFECTIVELY THAN THE POST-EDITOR. THESE IMPROVEMENTS WILL, OF COURSE, UTILIZE NOT ONLY DEVELOPMENTS IN HARDWARE, PROGRAMMING AND LINGUISTIC ANALYSIS, BUT ALSO THE EXPERIENCE GAINED BY ANALYSING THE MACHINE OUTPUT ITSELF". THE RESEARCHERS AT CUHK FEEL STRONGLY THAT IF "POST-EDITORS" MENTIONED ABOVE ARE CHANGED TO "PRE-EDITORS", THEN THE SEMANTIC AND LEXICAL ANALYSIS WILL BE MUCH SIMPLER AND EFFECTIVE. IN THEORY, IF WE CAN PRE-EDIT THE SOURCE LANGUAGE TO MAKE IT AS COMPATIBLE TO THE STRUCTURE OF THE TARGET LANGUAGE AS POSSIBLE AND THEN PROGRAM A SET OF RULES FOR ANALYSIS AND SYNTHESIS, THEN THE TRANSLATED TEXTS OBTAINED WILL BE READABLE AND ACCURATE. TO QUOTE A.G. OFTTINGER: "BEFORE MACHINE INSTRUCTIONS FOR TRANSLATION CAN BE FORMULATED, THE SIGNIFICANT PATTERNS OF THE SOURCE LANGUAGE AND TARGET LANGUAGE MUST BE PRECISELY IDENTIFIED AND PUT INTO CORRESPONDENCE .... CORRESPONDING PATTERNS, THEREFORE, MUST DEFINED AS CONVEYORS OF EQUIVALENT MEANINGS SINCE, WHATEVER MEANING IS, IT IS GENERALLY AGREED THAT IT MUST BE PRESERVED IN TRANSLATION."

A FIXED SET OF PRE-EDITING RULES MUST THEREFORE BE FORMULATED TO ENABLE INEXPERIENCED AND EVEN MONO-LINGUAL PEOPLE TO TRANSFORM QUICKLY THE INPUT INTO MACHINE-TRANSLATABLE FORM. WITH THIS ARRANGEMENT, POST-EDITING CAN BE KEPT TO A MINIMUM, IF NOT ALL TOGETHER ELIMINATED. GIVEN TIME AND BETTER PROGRAMMING TECHNIQUES, THESE PRE-EDITING RULES WILL GRADUALLY BE REDUCED SO THAT THE COMPUTER WILL EVENTUALLY TAKE UP THIS ROUTINE WORK. PRE-EDITING CAN THEREFORE SOLVE MANY OF THE PRESENT LINGUISTIC PROBLEMS THAT ARE OTHERWISE DEPENDENT ON FURTHER RESEARCH IN NATURAL LANGUAGE, COMPUTATIONAL LINGUISTICS AND TRANSFORMATION MATHEMATICS. IN OTHER WORDS, MODELS THAT ARE MUCH MORE COMPREHENSIVE AND SOPHISTICATED THAN THE PRESENT ONES HAVE TO BE DESIGNED. THESE MODELS MAY TAKE YEARS TO PERFECT AND, AT PRESENT, PRE-EDITING IS ABSOLUTELY ESSENTIAL IN ORDER TO ACHIEVE THE GOAL. IN PRESENT STAGE OF OUR DEVELOPMENT, VERY COMPLEX SENTENCES CAN BE TRANSLATED WITH THE AID OF PRE-EDITING. A SENTENCE WHICH HAS A COMPLICATED STRUCTURE CAN BE ANALYSED BY THE EXISTING PROGRAM IF IT IS BROKEN UP INTO SIMPLER SENTENCES WHICH ARE THEN READILY TRANSLATED BY THE COMPUTER. SENTENCES IN CHINESE ARE OFTEN WITHOUT VERBS OR SUBJECTS AND PRE-EDITING CAN ADD THE VERBS OR SUBJECTS SO THAT THESE SENTENCES CAN THUS BE ANALYSED AND TRANSLATED.

CULT (CHINESE UNIVERSITY LANGUAGE TRANSLATOR) WAS DEVELOPED BASED ON THE PRINCIPLE MENTIONED ABOVE AND HAS BEEN RIGOROUSLY EXAMINED AND TESTED. THE TRANSLATION ALGORITHM IS GIVEN IN FIG. 1. SINCE THE BEGINNING OF THIS YEAR, THE CULT SYSTEM HAS BEEN USED ON A REGULAR BASIS TO TRANSLATE TWO CHINESE SCIENTIFIC JOURNALS, ACTA MATHEMATICA SINICA AND ACTA PHYSICA SINICA, WHICH ARE PUBLISHED BY THE PEKING ACADEMY OF SCIENCE. THIS ACCOMPLISHMENT INDICATE THE CORRECTNESS OF OUR APPROACH AND THE POTENTIAL CAPABILITY OF CULT.

FUTURE

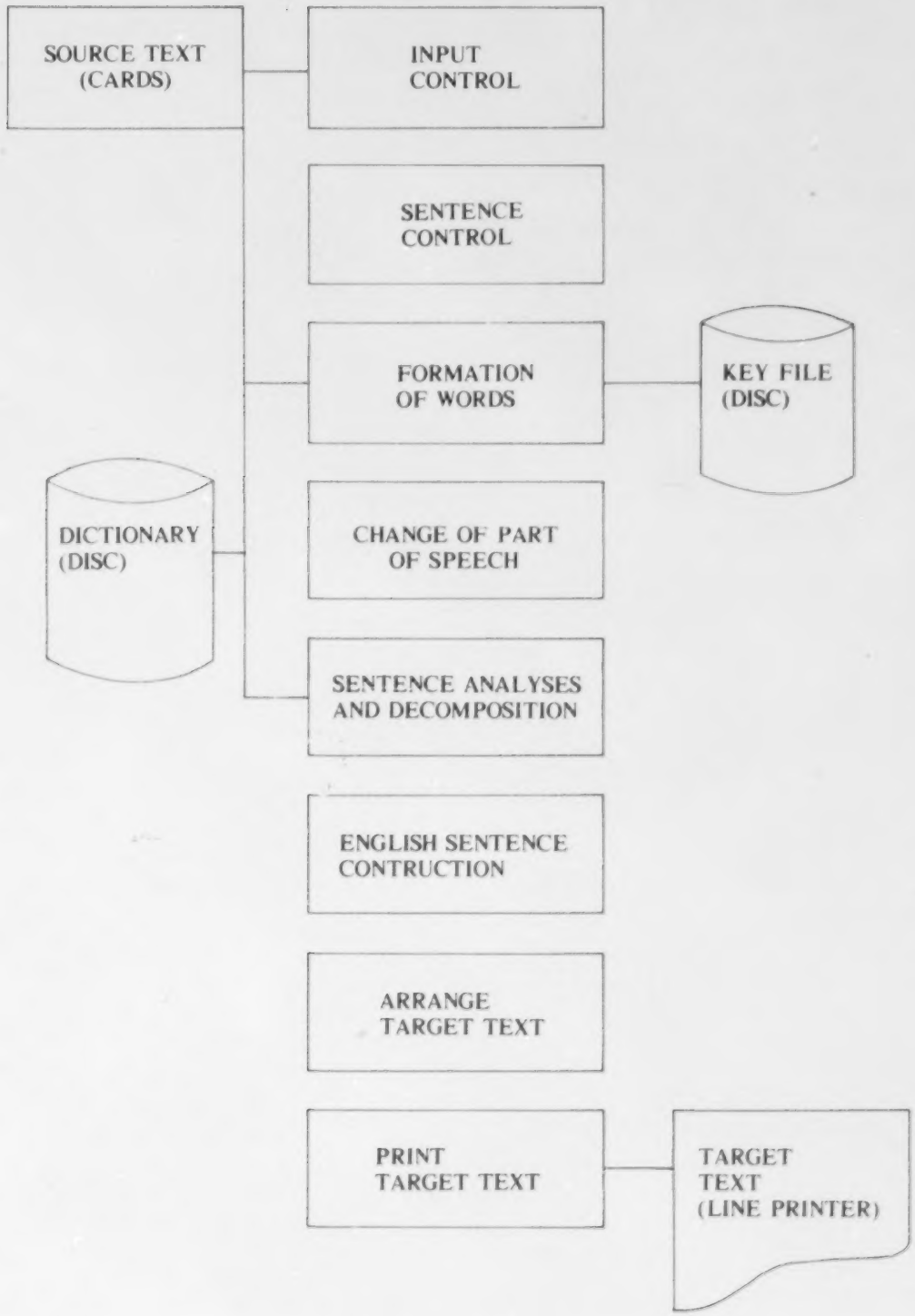
IN THE NEXT FIVE TO TEN YEARS, DEVICES MIGHT BE AVAILABLE AT A REASONABLE COST FOR INPUTTING AND OUTPUTTING CHINESE OR OTHER NON-ALPHABETIC CHARACTERS. THIS IS, AT PRESENT, THE PRINCIPAL PROBLEM FACING THE PROCESSING OF LANGUAGES OTHER THAN THOSE USING ALPHABETS.

MORE LINGUISTIC RESEARCH APPLICABLE TO MACHINE TRANSLATION MAY YIELD USEFUL RESULTS SO THAT MORE COMPREHENSIVE GRAMMATICAL RULES AND SENTENCE STRUCTURES BETWEEN LANGUAGES CAN FORMULATED.

AT THE CHINESE UNIVERSITY, WE ARE AT THE PRESENT WORKING ON A LANGUAGE TRANSLATOR WHICH WILL ENABLE US TO TRANSLATE CHINESE INTO ENGLISH AS WELL AS TO TRANSLATE ENGLISH INTO CHINESE. A SIMULATION STUDY HAS BEEN DONE WHICH INDICATES THE POSSIBILITY OF SUCCESS. WE ARE HOPING THAT, IN A FEW MONTHS, A MODEL MAY BE DESIGNED TO DEMONSTRATE THE SYSTEM. IF IT IS SUCCESSFUL, WE ARE OF THE OPINION THAT A UNIVERSAL TRANSLATOR MAY BE DESIGNED SO THAT ONLY ONE TRANSLATOR WILL BE REQUIRED TO DO TRANSLATION BETWEEN LANGUAGES.

ASK NOT WHAT THE COMPUTER CAN DO FOR YOU. ASK WHAT YOU, WITH THE AID OF THE COMPUTER, CAN DO FOR THE BETTERMENT OF THE MANKIND.

TRANSLATION ALGORITHM



TRANSLATION FROM A GLOBAL LANGUAGE TO A LOCAL LANGUAGE: A CASE STUDY FROM THAILAND*

* Document POP/TPM/BP.5. The paper was prepared by Boonlert Leoprapai, Director of the Institute for Population and Social Research, Mahidol University, Bangkok. The opinion expressed are those of the author, and do not necessarily represent the views of the United Nations.

I. BACKGROUND AND RATIONALE

1. The population of Thailand now exceeds 40 million, and at its current annual growth rate of about 3 per cent it will have doubled in 25 years. Over 80 per cent of the population lives in rural areas, but urbanisation is of increasing concern especially in the Greater Bangkok area.

2. Thailand is a dramatic case of the clash between population patterns and aspirations for socio-economic improvement. It exemplifies similar severe problems found in other Southeast Asian countries. If Thailand is going to respond effectively to this challenge, firm commitment from the Government as well as a more effective population policy and programmes are required.

3. The Thai Government has indeed become increasingly concerned with population questions since 1959. In March 1970, the Cabinet declared a formal national population policy, supporting voluntary family planning in order to resolve various problems related to the very high rate of population growth. Under this policy, a National Family Planning Programme was created within the Ministry of Public Health, one aim of which was to help reduce the annual population growth rate by the end of 1976. Other aspects of population development, including closer study of the implications of population growth on education, welfare, employment, environment and other sectors, are still to be explored in depth. Alternative public policy approaches which might influence future population patterns are yet to be worked out.

4. To make any headway in this broad and complex field of problems requires cultivating and utilizing talents from many different disciplines, professions and organizations. Help is needed to facilitate understanding of the various aspects of the subject, to identify, test and demonstrate alternative approaches, to develop needed personnel, to evaluate effects and to promote the needed administrative and policy innovations. All these result in an increased demand for trained demographers, survey statisticians, sociologists, social psychologists, anthropologists, economists etc.

5. Until very recently, the demand for demographers was met by sending students for training in the United States of America or Europe, and at the International Institute of Population Studies at Bombay, India. This was made possible by the generous support of many international organizations and foundations. However, in view of the relatively high cost involved in training abroad, the consensus of opinion among Thai and foreign experts in the field is that it would be more economical to train students in their own country.

6. The training of professional demographers was initiated by the Institute of Population Studies at Chulalongkorn University in 1966, where an M.A. programme in population is offered. In 1971, the School of Applied Statistics, at the National Institute of Development Administration, also launched a programme in demography. In addition to these two programmes, practically all the public institutions of higher learning are offering one or more demographic or population-related courses, mostly under the rubric of "population problems", as "service" courses to both graduate and undergraduate students in the social science, medical and health fields. With the introduction of the three-hour credit course "Introduction to population science" at Ramkamhaeng University, an "open" university with an enrolment of 40,000, the number of students exposed to the discipline of demography for at least three hours per week must be on the order of 10,000.

7. Compared with other disciplines in the social sciences, demography can be considered as a relative late comer, if not the latest comer, in Thai academic circles. It is no surprise to find that teaching materials and references in the Thai language are scarce. One reason for the scarcity is that most demographers in Thailand are trained in English-speaking countries, or at institutions which employ English as the medium of instruction. Consequently, most writing in demography, usually in the form of theses or dissertations for fulfilling degree requirements, is in English. Furthermore, as demographic research and training have been assisted and funded mostly by international organizations and foundations, demographers are almost always obliged to prepare research reports in an internationally used language. However, some international agencies and foundations have now changed their requirements. For example, instead of a full report in English, only an abstract in English may be required.

8. The scarcity of teaching materials and references in Thai forces teachers of demography to rely on textbooks and articles written in English.

9. In Thailand, although English is taught as a second language in school beginning with the eighth grade, the average three hours per week of classroom teaching is inadequate to equip students with proficiency in English. For undergraduate students, it is almost impossible for a lecturer to give read-

ing assignments in English. Even graduate students find it extremely difficult and time-consuming to read texts and references in English. Consequently, the non-availability of teaching materials and references in Thai presents one of the greatest obstacles to the development in Thailand of demographic and population research and training. There exists a concern among those involved that local institutions may not be able to satisfy the demand for demographic skills, since more students are currently receiving advanced training abroad than in the country. As a beginning to overcoming this obstacle, a group of professional demographers is translating a reference work of the United States Bureau of Census, **The Methods and Materials of Demography,** in two volumes, by Henry S. Shryock, Jacob S. Siegel and associates (Washington, D.C., United States Government Printing Office, 1971).

10. Demographic methodology and analytical techniques are basic tools for advanced training in population analysis, substantive demography and population theory. Since the discipline has been well developed, technical articles on all aspects of population study are not lacking. In general, however, the number of textbooks on general methodology and techniques of demographic analysis is small. Practically all available texts or references are either too elementary and limited in scope, or so sophisticated as to be understood only by professional demographers. Many texts on general methodology which are major works in population study are intended primarily for actuarial students and treat some topics more thoroughly than others. The United Nations manuals on methods of demographic analysis and projections are publications which can be used for self-study, treating certain techniques quite comprehensively. However, these manuals are devoted largely to discrete techniques, tending to concentrate on population estimates and projections. They are thus more appropriate for social and economic planners than for students. Also, certain volumes of the manual series require a good deal of background and familiarity with demographic data and methods.

11. After reviewing available publications in English, the recently issued **The Methods and Materials of Demography,** in which both population data and methods are comprehensively treated, seems to be ideally useful "as a text for courses on demographic methods and as a reference for professional workers who have occasion to use population data", as stated in the preface to the first volume of the work.

12. More specifically, it meets the criteria of:

(a) Comprehensive treatment of demographic data. Demographic data are the basic materials of the field. Students in demography should have some knowledge of how data on population are collected, classified, processed and tabulated. What are limitations and uses of data? What are the definitions of terms and concepts used in the census, vital statistics systems and population-related surveys? What are the international recommendations on collection, tabulation and presentation of data? The answers to these questions are essential for the effective use of data in deriving demographic measures and analysing population trends, composition and change.

(b) Comprehensive treatment of demographic methods. As stated earlier, demographic methods are prerequisite to an understanding of the subject. Students in demography should understand fully the logic of various demographic measures used in population analysis and answers to such questions as: How is each measure derived? What are its uses and limitations? What could be done when the required basic data are not available or are inadequate?

(c) Comprehensive coverage of topics. Though this criterion is not fully met, in the sense that each topic is not equally treated, **The Methods and Materials of Demography** nevertheless is probably the most comprehensive manual to date. There is a growing consensus among demographers who teach and work with population methodology that it is becoming the standard teaching and reference work on the subject. Perhaps an equally comprehensive treatment of substantive demography is found in **The Determinants and Consequences of Population Trends: New Summary of Findings on Interaction of Demographic, Economic and Social Factors (volume I)** [1/] .

13. Having been published by the United States Government Printing Office, another major advantage to the two volumes by Shryrock and Siegel is that no copyright restraints are encountered in their translation and publication. The group of Thai translators nevertheless felt obliged to seek prior approval from the appropriate authority. The request was made to the Director, Bureau of the Census of the United States, and was kindly granted. Furthermore, all original copyright-holders of material included in the two volumes have kindly granted their permission to reproduce those materials in the Thai translation without cost.

II. LOGISTICS AND PROBLEMS INVOLVED IN TRANSLATION

14. An attempt to translate the two volumes, con-

1/ United Nations publication. Sales No.E.71.XIII.5.

taining nearly 900 pages of text in double columns, makes the undertaking a formidable one. Thus, a team enterprise has been necessary. It is estimated that the translation, editing and preparation of a manuscript would require at least 6,000 man-hours.

A. SELECTION OF TRANSLATORS

15. Since the two volumes contain 25 chapters of various lengths, if 25 translators could be invited to participate in the undertaking each would be responsible for about 36 pages. The criteria used in selecting translators are:

(a) A translator must currently be a teacher or a researcher in population studies and/or a statistician responsible for the collection of population data;

(b) A translator must have received advanced training in demography as a major or minor subject at an institution using English as a medium of instruction,

(c) Most important of all, the translator must have a high degree of motivation in this undertaking. Since well-trained demographers in Thailand are few in number, the heavy demands on their services make it extremely difficult for them to spare the time to do a job which may be useful but not rewarding in terms of remuneration or career.

16. In any event, the organizer of the project has secured the participation of 21 demographers, sociologists and economists working at universities or governmental organizations. Six translators are staff members of the Population Survey Division of the National Statistical Office, which is responsible for the population census and other population surveys. Five other translators are members of the Social Science Research Division, National Research Council, nine come from Mahidol University and one works at the National Institute of Development Administration.

B. SELECTION OF TERMINOLOGY

17. Having decided to undertake translation, the first problem faced by the group was how to achieve consistency in the use of demographic terms and definitions in the Thai language. In a country like Thailand, where the social sciences are not well developed, technical terms and definitions in Thai for English counterparts are lacking. Even the word "demography" itself was incorrectly translated and used for several years. The word "demography" was first translated as **pra-cha wanna** which literally means "description of the population". Only recently did the term **pra-cha-korn sart,** or "science of population", become widely accepted. The usual practice for those who write technical articles or texts in Thai is to invent the Thai terms, noting the corresponding English terms in brackets.

18. In an attempt to avoid confusion arising from the use of different Thai terms for the same English terms, the group has agreed to prepare a list of Thai technical terms using the **Multilingual Demographic Dictionary** [2/] as a guide. Approximately 3,300 technical terms in this publication have been translated, serving as the working reference for translators. The translated Thai terms are tentative, subject to revision. It is expected, when the translation has been completed, that the experience of the translators will result in a consensus on standard Thai technical terms. As a by-product of this undertaking, it is hoped that a translation of the **Multilingual Demographic Dictionary** will be accomplished. Attainment of these goals would further facilitate the translation of Thai materials into English.

C. APPLICABILITY TO LOCAL CONTEXT

19. How useful would such a translation be in the local academic-governmental context? This question is often raised, not only by those invited to participate in the translation project, but also by those who have heard about the undertaking. In population study, regardless of variations in cultural, economic and social factors affecting and being affected by changing size and composition of population in various countries, methods of analysis are essentially the same. Application of the methods depends primarily on a good understanding of the methods, plus the skill and ingenuity of the users. It is tempting to argue that many materials and techniques discussed in the two volumes in question are most appropriate for statistically developed countries and thus are beyond the reach of developing countries to utilize, the simple reason being that the kind of data needed do not exist and is not collectable. However, the advancement of the discipline depends on a good understanding of the state of knowledge of the discipline: data, methods and theory. Knowledge of what data and methods are available would serve as a frame of reference for students in demography.

20. Apart from its utility as teaching material for demographic methods, the translated publication could be utilized as a reference manual for those undertaking demographic analysis, such as preparing population estimates and projections, as part of their work.

2/ United Nations publication 58.XIII.4.

21. After examining the work page by page, the group at first decided to replace data used for illustrations in the text with available Thai data. Such an innovation, if practicable, would be pertinent for Thai students. However, that idea had to be discarded because it might show disrespect to the original contributors and also create complications with the copyright. Discriminating users of the translation could easily substitute Thai data for themselves.

D. ENSURING QUALITY IN TRANSLATION

22. The translation of approximately 3,300 technical terms in English from the United Nations **Multilingual Demographic Dictionary** was initially prepared. This has served as a reference for all translators, to ensure for each demographic term in English that the same Thai term is consistently used. Other measures to ensure consistency and good quality are:

(a) A full-time editor is responsible for editing the manuscript of each translator;

(b) When the first draft of a translation is submitted, it is edited, typed, then sent back to the translator for review and correction and then a second draft is prepared and submitted to fellow translators for review and comment.

(c) A periodic meeting of translators is to be organized to review final drafts of all chapters which is also intended to establish consensus on the use of new Thai demographic terms which translators have introduced as alternatives to previously accepted terms.

E. ISSUING THE COMPLETED TEXT

23. The original two volumes contain nearly 900 pages of text (23 x 29 centimetres) in double columns, which translated and published in the Thai language would result in a tome of about 1,600 pages. This size results because Thai vowels can be placed above, below in front of, behind, or surrounding a consonant or consonant cluster. Furthermore, a sign to indicate intonation may be added above the letters. Therefore, unlike the English language, Thai requires more space between lines of writing. The following illustrates this.

Once the maps have been prepared, the enumeration areas are delineated. There are two requirements for the establishment of enumeration areas. Firstly, the enumeration area must not cross the boundaries of tabulation areas; and secondly, the population of the enumeration area as well as its physical dimensions must be such that one canvasser can complete the enumeration of the area in the time allotted for the census.

ภายหลังจากที่ได้เตรียมแผนที่เสร็จเรียบร้อยแล้ว ก็จะเป็นการแบ่งเขตแจงนับ ในการจัดแบ่งเขตแจงนับมีหลักการที่จะต้องยึดถือสองประการคือ ประการแรกเขตแจงนับจะต้องมีอาณาเขตแบบเดียวกับเขตที่ใช้เป็นหน่วยในการประมวลผล และประการที่สอง ประชากรของเขตแจงนับรวมทั้งลักษณะทางภูมิศาสตร์ทางเขตแจงนับจะต้องมีเป็นในรูปที่ว่าพนักงานแจงนับ คนหนึ่งจะสามารถทำการแจงนับประชากรในเขตที่แบ่งไว้นั้นเสร็จสมบูรณ์ภายในช่วงเวลาที่กำหนดไว้ในการสำมะโน

24. Consequently, the Thai version may have to be published in four or five volumes. The decision on the number of volumes to be published depends on the estimated cost of publishing, which cannot be made until the draft is ready for printing.

25. According to the preliminary plan, approximately 200 complimentary copies will be sent to individuals and organizations directly or indirectly involved in population study and population programmes. The rest will be put on sale at a subsidized price, if a subsidy can be obtained from funding agencies.

26. The plan to publish a translation in several volumes also aims at the wider dissemination of the text. Those who are interested in particular topics may choose to purchase only certain volumes appropriate to their purposes.

F. CONSIDERATIONS OF TIME

27. The translation was originally scheduled to be completed within 12 months, excluding the time required for publishing. Allowance for unforeseen delays had been made, but nevertheless further delays became inevitable. The original schedule of 12 months had to be extended to 18 months. The main cause for delay has been the lack of time on the part of the translators. Although statistical tables, charts and graphs are reproduced in their original form, and all necessary secretarial services are provided, it still has proved difficult to finish the manuscript by the specified deadline. This is understandable because the financial incentive being offered is small.

G. THE COSTS

28. The originally estimated cost of the entire project, excluding the honorarium for translators, is about $US5,000. This gives an estimated average cost of about $6 per page of English text. Personnel costs account for about 60 per cent of the estimated total. If the honorarium for translation and editing

were added, the estimate would probably be double. Difficulty in seeking support from funding agencies makes it impossible to pay even a nominal honorarium. This again can be considered as a factor in the delay. Though all translators have agreed to contribute their efforts without expecting any financial reward, it remains difficult to persuade them to observe the deadlines in submitting their manuscripts.

III. Lessons provided by the Thai project

29. Since the project is not yet finished, it would be somewhat premature to generalize from the limited experience thus far. There are both technical and economic problems for this. On the technical side, the lack of standard demographic terms in Thai has made translation a difficult and complicated task. Another technical problem has been the differences in the writing style among the translators, an acute problem when two or more translators work together. On the economic side, there is difficulty in securing financial support for such an undertaking. All agencies being approached for financial support declined on the grounds that the project does not involve the creation of new knowledge.

30. In the selection of material for translation, although the principle of endurable value as a teaching instrument and a work of reference should be strictly observed, the material selected for translation should not be so voluminous as to require the cooperation of many persons. At present, translation of work already published by others does not excite and challenge scholars. Neither is it an effort which promises personal remuneration and improved career status. To promote translation, proper incentives in some form are required, at least in the early stages of the project.

SURVEY REPORT ON TRANSLATION IN INTERNATIONAL COMMUNICATION*

* Document POP/TPM/BP.6. This paper is a summary of an article prepared by Tadashi Yamamoto, Director of the Japan Centre for International Exchange. The views expressed are those of the author, and do not necessarily represent those of the United Nations. The original of this article may be obtained on request from the Japan Centre for International Exchange.

INTRODUCTION

1. The paucity of Japanese literature translated into Western languages has become more widely felt as awareness has grown in recent years about gaps in communication between Japan and the rest of the world. Discussion on the ways and means of improving communication between Japan and the rest of the world invariably evokes mention of the topic of translation. This report attempts to identify the issues related to the problem of translating Japanese social science work in the larger context of international scientific communications.

2. This report utilizes information gathered during the course of research in compiling the **General Bibliography of Japanese Publications in the English Language,** which contains lists of monographs, occasional papers, periodicals, governmental papers and bibliographies covering the period 1963 to 1973. In addition, interviews were conducted with commercial publishers, social scientists in Japan and abroad, governmental officials, journalists of other countries, professional translators and others, as well as other inquiries to major academic journals to update information for the post-**General Bibliography** period 1974 to 1975.

I. INVENTORY OF CURRENT TRANSLATION NEEDS

3. Translations of Japanese materials serve several different purposes. They provide the non-Japanese reading public with introductory information, assist in deepening understanding of specific aspects of Japan for those who have a special interest in Japanese affairs (e.g. businessmen, politicians, journalists and scholars), help create bridges and ties between Japanese social scientists and their counterparts abroad and enable Japanese social scientists to make contributions to the body of universal knowledge.

A. TRANSLATION OF INTRODUCTORY MATERIALS.

4. Increased attention has been given to Japan in the past few years, which is reflected in an increase in the number of books written on Japan for general reading by Japanese and other scholars. It is desirable that introductory books written from Japanese points of view become available in greater numbers, cover more diverse subject matter and present more varied interpretations.

B. TRANSLATION TO PROVIDE SPECIALIZED INFORMATION

5. There is a rapidly increasing number of scholars seeking specialized understanding about Japan and access to basic data and information on various aspects of Japan. However, although some specialized books on Japan have been written in English by foreigners, only a few Japanese works on the general political, economic and social systems of Japan have been made available in English during the past several years. There is a lack of works explaining the Japanese point of view on intricacies of Japanese society. This is where high-quality translations of significant Japanese writings become essential.

6. Those who seek specialized or technical accounts of Japan are also interested in English language data and information from governmental agencies, economic organizations and business corporations. Our survey project research showed that a substantial number of such documents have become available in recent years. Although sometimes the quality of the translation of these documents leaves much room for improvement, they seem to be very useful to those who do not read Japanese but who are interested in keeping abreast of Japanese affairs.

C. TRANSLATION TO BUILD BRIDGES BETWEEN SOCIAL SCIENTISTS

7. If translations of Japanese writings are going to help build bridges between Japanese and other social scientists, the present number of translated works is far too small. Only a few Japanese articles have been translated and published in several prestigious non-Japanese academic journals. Some of these journals are only interested in publishing articles by Japanese scholars writing in English which effectively limits contributors to a very small number.

8. It is also unfortunate that some English-speaking Japanese scholars are well known by scholars of other countries and operate in the international circuit, but other top scholars who do not speak English are hardly known outside of Japan.

D. TRANSLATION TO INTRODUCE CONTRIBUTIONS OF JAPANESE SOCIAL SCIENTISTS

9. There are several monumental Japanese works, recognized by a general consensus in the Japanese academic community, that would definitely add to existing scholarship if translated into English.

There is also a younger generation of scholars in the social sciences who have been trained in modern techniques and behavioural approaches, who should be able to contribute something unique from a Japanese perspective to their counterparts abroad. Much of their work has yet to be translated.

II. FACTORS CONSTRAINING CURRENT TRANSLATION EFFORTS

10. In order to find ways of improving the state of available translated works, the first consideration is the difficulties involved in translating Japanese social science writings into English or other languages.

A. LINGUISTIC AND CULTURAL PROBLEMS

One popular and correct conception of the difficulties in translating is that it is difficult to substitute English words for Japanese words which may be imbued with subtle nuances and that it is difficult to bridge the differences in linguistic structure between Japanese and other languages. The problems are compounded by the difficulty of communicating concepts and ideas across cultural boundaries.

12. The process of translating works in the social sciences and other fields therefore requires a highly sophisticated mode of cross-cultural communication which can be handled only by those equipped with special talent and sensitivity.

B. LACK OF QUALIFIED TRANSLATORS

13. Another major constraining factor preventing improvement of translations of books and articles in the social science field is the difficulty in securing competent translators. It is very hard to find individuals with such qualification either among the Japanese or others.

14. Another problem is that translators in the social sciences, unlike translators of literary works, usually cannot receive proper credit for their work.

C. THE HIGH COST OF TRANSLATING

15. The translation fees of some professional translators range anywhere from ¥ 4,000 ($US14) to ¥6,000 ($US20) per Japanese manuscript page, which usually comprises 400 Japanese characters (approximately equal to less than one double-spaced, typewritten page in English). This suggests that an article of average length (about 20 pages in Japanese) for an academic journal could cost approximately $200 to $400. As quality translating is something much more than merely transferring vertical writing to horizontal writing, it is not surprising that the costs are somewhat high.

III. PRIORITIES IN SOCIAL SCIENCE TRANSLATION AND RELATED ENDEAVOURS

16. There have been some encouraging developments recently which indicate that the importance of translating Japanese books and articles into English is becoming more widely recognized.[1/] Nevertheless, there still seems to be considerable difficulty in conceptualizing or understanding the complexities, difficulties and costliness of the translation process by all parties concerned. Possible directions for future efforts in this area are indicated below.

17. **Need for auxiliary efforts to reinforce the impact of translations.** This subject cannot be properly discussed without referring to the larger problem of how to improve the communication between Japan and the rest of the world. The desired results at times might be more effectively achieved by means other than translation. For example, while the continued professional translation of quality Japanese writings is expected to contribute to the deeper understanding of Japan, vigorous new efforts are needed to facilitate access to the constantly increasing number of English-language documents on Japan. Priority should also be given to introducing English language summaries of works by Japanese scholars in an extensive and systematic fashion without waiting for full translation of their writings.

18. **Bibliographies of English-language publications on Japan.** Some serious efforts have been made in the past in compiling and publishing bibliographies of English-language books written by foreigners. It may be feasible to have some comprehensive bibliographies of English-language publications on Japan which include documents written originally in English and those translated from Japanese. These bibliographies should be updated regularly.

19. **Information clearing-house for English-language documents published in Japan.** English documents published by the Japanese Government, economic organizations, corporations and other groups can be potentially useful for people seeking specialized information on certain aspects of Japan. A systematic information bank would greatly facilitate access to these documents, which might otherwise be underutilized or overlooked.

1/ See "The ESCAP/Government of Japan translation project" (POP/TPM/BP.7), pp. to below.

20. **Annotated bibliographies of social science writings.** In order to promote more opportunities for interpersonal exchange between Japanese social scientists and their counterparts abroad, the publication of annotated bibliographies would be of great use. Also, this would hopefully encourage foreign publishers to translate more Japanese works which would contribute to the international body of knowledge.

21. **Abstracts.** The publication of abstracts of works in various subjects or academic disciplines is another kind of effort which should be vigorously promoted, in addition to annotated bibliographies. The abstracts can help bridge the vast information gap and begin to stimulate the interchange between scholars and researchers in Japan and the rest of the world.

22. **Improvement of the distribution system for English-language publications on Japan.** The circulation of books and other publications can be improved and increased to a considerable extent in various locations outside Japan. Although some efforts have been made in the past, certain arrangements such as consigning selected materials to certain institutions and organizations (e.g. university bookstores), where potential readers would have easy access to them, should be further explored.

23. **English directory of Japanese scholars, institutions and organizations.** English language directories of Japanese scholars and institutions would help create channels of communication and interaction between Japanese and foreign social scientists. The directory (or directories) could include data such as areas of specialization, major past works, current endeavours and addresses, and should be updated periodically.

24. **Crash translation projects.** Some crash translation projects, with sizable funding, are needed to increase significantly the availability of Japanese writings in certain crucial areas. Until the amount of available knowledge about Japan can be raised to a satisfactory level, Japan will not be able to feel secure that it has finally emerged from cultural and academic isolation in the international community. An attempt has been made to define the three areas where possible priorities exist for such intensive translation programmes.

(a) In order to encourage the entrance and participation of more Japanese social scientists in international academic circles and to help spread Japanese scholarship abroad, representative works by outstanding contemporary scholars of Japan should be translated into English. One idea in this connexion might be a project to publish a series on contemporary Japanese social science of some 30 monographs. This type of project would signal a long-awaited break-through for Japanese scholarship and would be a step forward in the internationalization of Japanese social sciences. Such a project would certainly stretch out over several years. Recognizing, however, the scarcity of Japanese writings in the social sciences available in English, a major concerted effort is needed.

(b) There are a number of Japanese social science writings widely considered by Japanese scholars to be significant and of a classical nature. These works should be made available to foreign readers (e.g. the monumental works of Kunio Yanagita, folklorist).

(c) Many publishers are now finding it commercially feasible to publish English-language books on Japan of an introductory nature for general readers. As the interest in modern Japan grows, the demand for more technical or sophisticated information about certain aspects of the country or its people is also growing, and translations of such writings would be needed.

25. There is a great need for long-term efforts and, from a long-range point of view, that of the international communications infrastructure must be considered in the areas of (a) allocation of financial resources, (b) increasing the number of qualified translators; (c) mechanisms to facilitate high-quality translating and (d) institutional efforts.

(a) **Allocation of financial resources.** There seems to be a tendency in many international organizations and programmes to overlook the importance of translating documents for a wide readership. Consequently very little funding is allocated for such purpose in Japanese corporations, international organizations, or the Government. Perhaps there will be programmes such as the one initiated by the Japanese Ministry of Education to underwrite the needed translation efforts with financial support.

(b) **Increasing the number of qualified translators.** One possible yet admittedly partial solution to the problem of the acute shortage of competent translators might be to train selected foreign students who are planning to become specialists on Japan in the future. The hope is that these future specialists will be able to do periodic or occasional translating later while pursuing their professional career. Of the problems involved in training a pool of transla-

tors, one is that there are only a few professional translators in the social sciences who could impart the important lessons. In addition, the training of the translators should involve not only acquisition of translating skills but also a highly sophisticated understanding of Japanese affairs. An experimental programme along these lines is beginning at the Inter-University Centre for Japanese Language Studies in Tokyo (a Stanford University-administered programme). The programme will include such things as translation training, translating projects, seminars on contemporary Japan and internships in Japanese organizations. Another possible way to increase the pool of translators is to locate those who are presently able to collaborate in translation projects. However, even the translating efforts of these competent specialists will have to be supplemented by Japanese editors and translators (or vice-versa) to produce good-quality results.

(c) **Mechanisms to facilitate quality translating.** Even if the components of an ambitious translating programme are assembled, without proper co-ordination or a catalytic mechanism, the separate parts cannot interact together smoothly. Such a central co-ordinating body would be able to promote the inclusion of Japanese articles in prestigious foreign academic journals by providing funds, or by match-making writers with publishers and translators. The funding would underwrite the cost of translating the original writing into good English. This would make it easier for foreign journals and publishers to evaluate the acceptability of the Japanese work on purely objective grounds, not on the basis of what language it is written in. By keeping a current list of potential writers, translators and publishers, both Japanese and others, the proposed body could help make the proper contacts and introductions. This proposed co-ordinating and cost-absorbing body would be of value in helping bridge the gap between the Japanese scholars and their foreign colleagues.

(d) **Institutional efforts.** A meaningful improvement in the present situation rests on whether or not all Japanese organizations and institutions involved in international communication will assume their share of the responsibility.

26. In simple terms, individual organizations and institutions in Japan will have to begin a more systematic and positive programme for disseminating information in English about their activities.

27. Awareness should grow in other quarters of the urgency and importance of working towards better international communication. The work may shortly begin, and the awareness, intentions and ideas hopefully can be translated into concrete action.

ESCAP/GOVERNMENT OF JAPAN PILOT TRANSLATION PROJECT: THE JAPANESE EXPERIENCE IN THE SELECTION AND TRANSLATION OF POPULATION MATERIALS*

* Document POP/TPM/BP. 7. This paper was prepared by Toshio Kuroda, Former Director, Institute of Population Problems, Ministry of Health and Welfare, Tokyo, Japan. The opinions expressed are those of the author, and do not necessarily represent the views of the United Nations.

INTRODUCTION

Three major research organisations in Japan published population material in Japanese in their own periodicals and research series before the Second World War. The Institute of Population Problems, Ministry of Health and Welfare, published the quarterly **Journal of Population Problems** between April 1940 and December 1943. The Foundation-Institute for Research in Population Problems published a journal entitled **Population Problems** from 1938 to 1943. The third major publication was a research series in population problems by the Study Group on the Japanese Economy, headed by Professor Teijiro Ueda (then President of the Tokyo University of Commerce): Serie No. 1, 2 and 3 entitled **Studies on Population Problems in Japan (Nihon Jinko Mondai Kenkyu)**, published in 1933, 1934 and 1937, respectively.

2. In addition to these studies, a few works by individual scholars on population should be mentioned **Population Policies in Japan (Nihon Jinko Seisaku)** by T. Ueda (Chikura Publisher, 1937); **Analysis of Population Increase in Japan (Jinko Zoka no Bunnseki)** by Y. Morita (Nihon Hyoron Sha Publisher, 1944); and **Practical Studies on Farmers' Exodus (Nomin Rison no Zishoteki Kenkyu)** by S. Nojiri (1942).

3. Population research has evolved extensively since the Second World War. Besides the staff of the Institute of Population Problems, many economists, sociologists, geographers and medical people, among others, have undertaken population studies. Two references give a general view of the scope of Japanese publications in the field: Y.S. Matsumoto, **Demographic Research in Japan. 1955-70: A Survey and Selected Bibliography**, Papers of the East-West Population Institute, No. 30 (1974) and "Summaries of selected Japanese demographic studies", ESCAP Population Division Working Paper No. 6 (1967).

4. Translations from the Japanese to other languages may be more useful than translations from foreign languages into Japanese, since the latter are only for Japanese readers.

I. Translations of Japanese population materials

5. The following publications are Japanese works which have been translated into other languages, mostly English.

(a) Institute of Population Problems, **English Pamphlet Series**, Nos. 1 to 80 (1948 — 1972).

(b) **Archives of Population Association of Japan**, Nos. 1 to 4 (1952, 1954, 1955 and 1964); papers presented at annual meetings of the Association specially selected for translation into English.

(c) Foundation—Institute for Research of Population Problems, occasional publications in English, (e.g. **The "New Life" Movement Through Enterprises in Japan**, (1965); recently the Foundation has begun an English research series of translated Japanese papers, of which four numbers have been published.

(d) Population Problems Research Council of the Mainichi Newspapers, English editions of population research results and of reports on biennial opinion surveys on family planning initiated in 1950; around 100 research items have been sponsored by the Council, of which the following two are very important:

(i) **Family Planning in Japan: An Opinion Survey by the Mainichi Newspapers**, (Japanese Organization for International Co-operation in Family Planning, 1972); (translated from **Demographic Revolution in Japan (Nihon no Jinko-Kakumei)**, Mainichi Newspaper, 1970).

(ii) K. Nakano, **The Population of Mainland China and Its Recent Trends**, Mainichi Population Problems Research Council Series No. 22 (1971); (translated from **Chugoku no Jinko** by the same author, published in 1969 as **Japanese Material** No. 105 of the Council).

(e) Occasional translations published by Japanese governmental agencies and several research organisations, including the recent work by T. Kuroda, translated into English and French respectively, **Structural Change of Population of Japan** and **Changement de la structure demographique du Japon, (Ministry of Foreign Affairs, 1973).**

6. A few examples of recent translations from English into Japanese are listed be low.

(a) L.R. Broun, **In the Human Interest: A Strategy to Stabilize World Population** (New York, Norton, 1974.

(b) Dom Moraes, **A Matter of People** (New York, Praeger Publishers, 1974).

(c) Commission on Population Growth and the

American Future, **Population and the American Future: Report of the Commission on Population Growth and the American Future** (Washington, D.C.; Superintendent of Documents, U.S. Government Printing Office; 1972).

(d) J.M. Beshers, **Population Processes in Social Systems** (New York, the Free Press, 1967).

(e) D. Heer, **Society and Population** (Englewood Cliffs, N.J.; Prentice-Hall, 1968).

(f) I. B. Taeuber, **The Population of Japan** (Princeton, N.J.; Princeton University Press, 1958).

II. ESCAP/Government of Japan project

8. Several meetings have been held between ESCAP representatives and officials of the Japanese Government in recent years, to explore ways and means to organize the translation and publication of population materials in Japanese. Inevitably, financial questions in implementing translation projects have been major problems for both sides. The result has been that ESCAP is responsible for determining the needs of users and for the printing and distribution of publications; Japan takes responsibility for selecting and translating the texts into English. Further details of the discussions between ESCAP and Japan, and of the work by ESCAP in the translation project, are provided by ESCAP at the current Expert Group Meeting.

A. Selection of texts to be translated

8. The National Translation Committee was established in January 1975 with representatives of the Ministries of Foreign Affairs and of Health and Welfare and one representative of the Japanese Organization for International Co-operation in Family Planning (JOICFP), a private organization. The Chairman of the National Translation Committee alternates according to the nature of meetings; for example, the Chief of the Social Affairs Division of the Ministry of Foreign Affairs, takes the chair at meetings with ESCAP, but the Chief of the Planning Division of the Ministry of Health and Welfare chairs meetings on national affairs.

9. The Institute of Population Problems serves as the secretariat and implements substantive work under the supervision of the Committee. Within the Institute, the Division of Population Information and International Co-operation is directly in charge of the translation project.

10. The National Translation Committee has entrusted the selection of materials to the Institute of Population Problems, which has established a small selection committee headed by the Director and composed of several staff members. Selection must follow the priority topics identified in a survey conducted by the Population Division of ESCAP. However, difficulty may be encountered in implementation, because Japanese studies are directed towards the population situation of Japan and designed for Japanese audiences. Consequently, they may not in every instance be meaningful to other audiences.

6. Translation procedures

11. After the selection of appropriate papers for translation, about 10 papers were submitted to the National Translation Committee for examination. Two papers were approved for translation in 1975: T. Honda, "An analysis of the birth control effect in marital fertility in prewar and postwar Japan, with special reference to the effectiveness of control by induced abortion and contraceptive practice" (1959); and H. Aoki, "On the basic fecundity of the Japanese" (1968). Both papers deal with fertility decline in connexion with family planning and induced abortion. It was expected that the translation would be finished by the end of 1975.

12. The two important requirements are ensuring high quality of the papers selected and satisfying the basic needs of users in the region. To meet the first requirement, the small selection committee of the Institute of Population Problems reviewed papers and exchanged views, taking into consideration points raised by the National Translation Committee.

13. Translation costs are not insignificant, hence the Institute of Population Problems is trying to expand the budget allocated for fiscal 1976. However, in view of extremely limited funding sources for 1975, the National Translation Committee has requested the financial assistance of private organizations, among which the Japanese Organization for International Co-operation in Family Planning has promised to help.

14. The translations are usually made by people who are professionally qualified in English but not in demography. Such translations, ideally, should be reviewed by demographers in consultation with the translators.

15. The time needed for the completion of a paper depends on many factors, such as the utilization of full-time or part-time translators, the degree of difficulty of the texts and the length of the papers.

No.17 *Population Periodicals -- A Directory of Serial Population Publications in the ESCAP Region* (E/CN.11/1176): 1974

No.18 *Some Techniques for Measuring the Impact of Contraception* (E/CN.11/1119): 1974

No.19-A *Asian Resources for a Population Library Information Network -- Report of a Working Meeting* (E/CN.11/1114): 1974

No.19-B *Establishment of a Population Library and Documentation Centre Information Network among the Countries of the ECAFE Region -- Report of a Task Force Meeting* (mimeographed): 1974

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